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ORIGINAL LECTURES.

THE PRESENT STATUS OF ABDOMINAL SURGERY.

The Address in Surgery delivered before the American Medical Association, May 5, 1886.

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(Concluded from page 567.)

SURGERY OF THE GALL-BLADDER.

RECENTLY the gall-bladder has been made a favorite object of operative treatment. As patients suffering from affections of this organ usually come under the treatment of the physician at first, a brief consideration of the improvements in the surgical treatment of affections of this organ will be of great interest to every physician. It requires no argument to show that surgical treatment should not be resorted to as an *ultimum refugium*, but to secure a good result the operation, when required, should be done before the patient's strength is too much reduced. An early operation is the more justifiable as statistics have shown that operations upon the gall-bladder are among the safest and most satisfactory within the domain of abdominal surgery.

Although the feasibility of the surgical treatment of affections of the gall-bladder was indicated by J. L. Petit and Thudichum, it was applied in practice almost simultaneously by Sims and Kocher in 1878. Sims completed the operation at one sitting; the patient died on the eighth day. Kocher made a preliminary operation by stitching the gall-bladder to the margins of the wound, so as to secure adhesions between it and the peritoneum before resorting to incision and drainage. The patient recovered. In the absence of positive signs and symptoms indicative of biliary obstruction, it is exceedingly important to resort to a most careful examination in determining the existence of an over-distended gall-bladder. The anatomical location of the tumor, its relation to surrounding organs, and its connection with the under surface of the liver, are important elements in the differential diagnosis. Mr. Taylor, of Birmingham, who had ample opportunity to examine cases of enlargement of the gall-bladder with Mr. Tait, describes a diagnostic line which appears to be of great value in determining the existence or absence of a distended gall-bladder: "This line is to be traced from the normal position of the larger end of the gall-bladder near the tip of the cartilage of the tenth rib on the right side, . . . to the opposite side of the abdomen, crossing the middle line slightly below the umbilicus. In the direction of this line a distended gall-bladder will naturally lie." In view of the comparative safety of an exploratory operation, this should be preferred to the more doubtful expedients of exploratory puncture and sounding of the gall-bladder in all cases in which a positive diagnosis cannot be made without resorting to these latter diagnostic measures, which cannot be said to be free from danger or to furnish sufficient information upon which to base a positive diagnosis.

The surgical treatment of the diseases of the gall-bladder at present includes three distinct and well-defined methods of operation, viz.: 1. Cholecystotomy with or without the formation of an external biliary fistula. 2. Cholecystectomy, or excision of the gall-bladder. 3. Duodeno-cholecystotomy, or the formation of a new communication between the gall-bladder and the duodenum.

1. *Cholecystotomy.* At the present time the majority of operators are in favor of finishing the operation at one sitting. According to Keen, the incision should be made, as a rule, over the centre of the tumor and parallel to the costal arch. It should be at least three inches in length and enlarged, if need be, afterward. All hemorrhage must be carefully arrested before opening the peritoneum. Through this opening the gall-bladder and common duct are explored by the introduction of two fingers, or, if necessary, the whole hand, to ascertain the condition of the swelling, the relations to surrounding organs, and, so far as possible, the character of the contents. If a calculus is found in the common duct, an attempt should be made to push it into the duodenum; if this cannot be accomplished, it should be forced back into the gall-bladder. If no stone is found present, a distended gall-bladder alone is a sufficient indication for incision and drainage. The evacuation of the gall-bladder is done by aspiration, and its wall is subsequently cut to the extent of an inch or more. After incision, care must be exercised to prevent escape of bile into the peritoneal cavity. The margins of the visceral wound are carefully stitched to the abdominal wound, and the cavity of the gall-bladder and its duct emptied of their contents. Immediate closure of the gall-bladder, after removal of its contents, was suggested first by Spencer Wells as appropriate in cases in which the surgeon can satisfy himself of the patency of the biliary passages.

This suggestion was carried out by Mr. Meredith, of London, who closed the incision in the gall-bladder after the extraction of three calculi, by means of a fine silk thread, introduced as a continuous suture, and inverting the edges of the peritoneal coat. The abdominal incision was closed in the usual way, no drainage being employed. This patient died in forty-eight hours, with suppression of urine. At the autopsy the incision in the gall-bladder was found securely closed and quite impervious to fluid. He remarks on this method of operating as follows: "As regards the method adopted, of dispensing with drainage, I do not feel inclined to recommend it, although there appears to me no reason why it should not succeed in a favorable case, provided, always, that it was possible to ascertain that no obstruction remained in the ducts. This, of course, constitutes the chief difficulty, and may be impossible; so that, on the whole, I believe that the more usual plan of drain-

ing the gall-bladder should be preferred—at all events in the majority of instances." Mr. Tait has expressed a similar opinion on this subject. He states, distinctly, that it cannot always be ascertained with certainty that the common duct is patent, and if this should not be the case the periodical contractions of the gall-bladder might cause a giving way of the sutures and extravasation of bile into the peritoneal cavity.

That these fears are not without foundation is well illustrated by the case of cholecystotomy reported by Dr. Parkes. The case reported by Dr. Bernays during the last year, on the other hand, demonstrates the advantage of suturing the gall-bladder and dispensing with drainage, as the patient recovered in a remarkably short time, without any untoward symptoms and without the inconveniences of a temporary fistula. As in the majority of cases the safety of the patient is enhanced by the formation of an external biliary fistula, which also enables the surgeon subsequently to treat the interior of the gall-bladder and the bile ducts, should this be required, it is evident that immediate closure of the gall-bladder has only a limited sphere of usefulness, and is applicable only in the exceptional cases in which the permeability of the biliary passages can be demonstrated at the time of operation. As in all other abdominal operations, the results obtained by Mr. Tait in the surgical treatment of diseases of the gall-bladder stand unsurpassed and preëminent. He has performed cholecystotomy 21 times, with so many recoveries. From different sources, Dr. McF. Gaston has collected 33 cases of cholecystotomy, with a mortality of 27.7 per cent., 9 having died.

2. *Cholecystectomy.* Ligation of the cystic duct and extirpation of the gall-bladder was introduced as a substitute for cholecystotomy by Langenbuch. He claims for his operation that it is not attended by any of the risks incident to incision and evacuation of the gall-bladder, and that in cases of recoveries from the operation it prevents the possibility of a recurrence of the disease, and that the possibilities of a permanent biliary fistula are never incurred. He has performed the operation five times, with two deaths: one from acute œdema of the brain, and the other from an ulcerous perforation of the cystic duct. Two successful cases are reported by Thiriar, and one by Corvoisier.

Mr. Tait prefers cholecystotomy to cholecystectomy, as being an easier and safer operation; and, in case a recurrence of the disease makes a second operation necessary, he claims that the first operation makes the second easier. It can be done readily and without any danger through the adherent cicatrix without any risk of opening the peritoneal cavity.

3. *Duodeno-cholecystotomy.* This term signifies an operation for uniting the gall-bladder and duodenum, with an opening between them. It has been suggested as a surgical procedure almost simultaneously by Harley and Gaston in cases of impermeability of the common bile duct, while the cystic duct is permeable, or may be rendered so by surgical means. In regard to such an operation, Harley says: "The triumph of modern surgery would be to establish an artificial fistula between the gall-bladder and the duodenum. For then not alone would the pent-up bile be removed, but the disturbances arising from the non-admittance of bile into the intestine, likewise, would be at the same time overcome. I am not quite sure if, in these days of antiseptic surgery, the operation is not practicable; for I can see no reason why the adjacent surfaces of the gall-bladder and duodenum should not be eroded by potassa fusa and speedily stitched together." Dr. Gaston has made this subject an object of patient and persevering experimentation. In summing up his results, he says: "Out of fifteen subjects, only three dogs finally survived the primary operation; yet it will be observed that the results of attachment of the gall-bladder to the duodenum and firm union by adhesive inflammation between their surfaces and the formation of a fistulous opening through this septum, which affords a communication between their cavities."

The feasibility of this operation has been demonstrated on animals, but its adoption in practice as a legitimate justifiable operation can only be expected after a more safe and expedient method of accomplishing the object has been devised, and its applicability has been demonstrated more satisfactorily on animals.

INJURIES AND SURGICAL AFFECTIONS OF THE LIVER.

The idea of treating injuries and some of the diseases of the liver by surgical means is not a new one as Ceccherelli credits his countryman Zambeccari with having made experiments on animals with such a view as early as 1680. Experiments and clinical observation have shown that injuries of the liver under favorable circumstances are not only repaired, but that in some unaccountable and as yet unexplained manner, loss of substance is replaced by regeneration. Thus Ceccherelli reports, among a number of operations, a very interesting case in which he performed excision of a portion of the liver with the gall-bladder, in a large hunting dog, with Paquelin's cautery. The operation was bloodless, and the animal recovered without any untoward symptom. The animal remained perfectly well, and was killed 226 days after the operation. The autopsy showed a cicatrix in the liver at the site of the operation, and that the organ had been restored to its former shape and size, as was ascertained by comparison with the liver of a dog of the same size. From the results of his experiments, he advises that in no case should more than one-third of the size of the liver be excised. To prevent or arrest hemorrhage, he prefers the actual cautery to the elastic ligature and pressure forceps.

1. *Wounds.* That gunshot wounds of the liver are not necessarily fatal even if no active surgical treatment is resorted to, has been well established by a number of cases in which the bullet was found encysted in the organ, without having given rise to any symptoms during life, years after the injury had been received. Thus Bilguer found a bullet encysted in the liver four months after the accident. Guthrie, Paroisse, and Thompson have each reported a case in which, on autopsy, the bullet was found in the gall-bladder, the patient having died from other affections. These cases and experiments are only mentioned with a purpose to show that, with proper surgical treatment, injuries of the liver would not be attended by such great mortality as has been the case on the expectant plan of treatment. The two great dangers attending visceral injury of the liver are hemorrhage and extravasation of bile into the peritoneal cavity. In subcutaneous lacerations of the liver, if the symptoms are such as to indicate internal

hemorrhage of a serious nature, the only chance to save life would be to perform abdominal section and to control the hemorrhage by direct measures, as without such interference the patient would be almost certain to die of peritonitis, even if he recovered from the effects of the hemorrhage. From the anatomical structure of the liver it is easy to conceive that the arrest of hemorrhage from this organ is not an easy task. Ligation is out of question. If the wound has a regular outline and involves the border of the liver, accurate coaptation of the wound surfaces, with catgut sutures traversing the entire thickness of the organ, would offer a fair chance of controlling the hemorrhage. The needle should be round and not quite as large as the thread of the catgut; so that the punctures will not give rise to additional sources of hemorrhage. If the wound is irregular, or located in such a manner as to render suturing impossible, the actual cautery can be used to advantage. If this fails to control the hemorrhage, we have still at our disposal one of the most reliable and safest means of arresting parenchymatous, or venous hemorrhage in the aseptic tampon—a tampon made of iodoform gauze. If an aseptic tampon is to be successful in arresting hemorrhage, an aseptic condition of the wound is indispensable.

In subcutaneous and consequently aseptic wounds of the liver, rendered accessible to treatment with the tampon by abdominal section, there would be no objection in plugging the wound permanently, closing the abdominal cavity, with the exception of an opening for a drainage tube, as near as possible at a point opposite to the visceral wound. Drainage in these cases is required on account of possible extravasation of bile taking place by filtration through the tampon. In the course of time the aseptic foreign material would become encysted. The use of the tampon for arresting hemorrhage from the liver was advised by Thesen, as early as 1795, and more recently by Brotherson, Demme, and Volkmann. In penetrating wounds of the abdomen with visceral lesion of the liver the same means may be resorted to in arresting hemorrhage and guarding against extravasation. In incised wounds suturing, if possible; in gunshot wounds, the aseptic tampon with drainage. As prolapsed portions of the liver are also usually contused, reposition, as a rule, is contraindicated, and such portions are better removed with a Paquelin's cautery.

As aseptic foreign bodies may become encysted in the liver as well as in other parts of the body, no additional injury should be inflicted in order to effect their removal. All such attempts are attended by an increase of hemorrhage and, from the friable nature of the substance of the liver unless the greatest care is exercised, an increase of traumatism is inevitable. On these accounts a faithful effort should be made to secure an aseptic condition of the wound, so as to obtain the most favorable condition for the healing of the wound, and the formation of a capsule around the foreign body in all cases in which extraction cannot be readily accomplished.

2. *Abscess and echinococcus cysts.* The treatment of abscess of the liver and echinococcus cysts by abdominal section is based on the same principles which embrace all the precautions which are necessary to obtain adhesion between the parietal and visceral peritoneum at the site of the incision. The recognized plan of treatment consists of making an exploratory incision through the abdominal wall over the most prominent part of the swelling, to ascertain the presence or absence of adhesion. If the peritoneal cavity is found obliterated, the operation is finished at once by incising and draining the abscess or cyst. If, on the other hand, no adhesions are found, the surface of the liver is exposed and the wound packed with iodoform gauze and an antiseptic dressing applied, which is allowed to remain for four to five days until adhesions have formed, when a second operation is made to evacuate the contents of the swelling by incision. If the abscess or cyst is centrally located, and a considerable portion of healthy liver tissue is interposed between it and the external surface of the organ, it is advisable to make the incision with Paquelin's cautery so as to prevent unnecessary or dangerous loss of blood. Echinococcus cysts are frequently located upon the upper surface of the liver and, on this account, are inaccessible to treatment by abdominal section. In such cases the practice of attacking them through an opening in the chest, as has been successfully done by Israel and Volkmann, recommends itself as the safest and most expedient operation.

SURGERY OF THE PANCREAS.

The surgery of the pancreas belongs to the future. The physiological function of this organ requires further investigation for a more intelligible interpretation of symptoms in disease. The only pathological conditions of the pancreas which have been made an object of surgical treatment are cysts. A number of successful cases of this kind are on record in which a permanent cure followed the formation of an external pancreatic fistula. In only one case did the fistula remain permanently, in all the rest the secretion diminished gradually and ceased definitely with the healing of the fistula. It is to be hoped that the symptomatology of different lesions of the pancreas will be made a special object of careful study and investigation, so that in the future we may be able to recognize and classify the different diseases of this remote organ during life, so that we may be able to resort to laparotomy in affections which may be amenable to direct surgical treatment.

LAPARONEPHRECTOMY.

Although statistics have shown that lumbar nephrectomy is a much safer operation than laparonephrectomy, the latter has a legitimate sphere in cases of large tumors of the kidney which cannot be removed through a lumbar incision. This operation also enables us to examine the opposite kidney at the time of operation, an advantage which is considered of sufficient importance by Thornton to give this operation the preference in all cases in which nephrectomy is intended.

Bruntzel has lately removed successfully a fibroma of the capsule with the entire kidney weighing thirty-seven and one-half pounds by abdominal section in a woman thirty-three years of age. The tumor had attained this enormous size in five years. It reached from the ensiform cartilage to the symphysis pubis distending the abdomen equally in all directions. Tympanitic resonance on percussion on both sides of the tumor. Palpation and exploratory puncture showed that the structure of the tumor was firm and solid. An incision was made the entire length of the linea alba. On opening the abdomen the tumor came in view covered by

peritoneum which was divided over the whole length of the tumor. The tumor was enucleated with the kidney, and the pedicle, which was composed of the renal vessels, was tied and after cutting dropped into the abdomen. The cavity was drained toward the lumbar region and the divided peritoneum sutured. Notwithstanding that a fecal fistula formed subsequently, the recovery of the patient was complete and permanent.

By a similar operation Hicquet extirpated successfully a retroperitoneal sarcoma which was intimately connected with the kidney in a girl six years of age. In this case the renal artery and vein were tied separately. For the extirpation of malignant tumors of the kidney, or its immediate vicinity, laparonephrectomy affords a better chance for a thorough removal of diseased tissue and for controlling hemorrhage, and on these accounts should be preferred to the lumbar operation. Whenever practicable, the integrity of the peritoneal cavity should be restored by suturing, and, if required, drainage established in the lumbar region.

LAPARONEPHROTOMY.

This operation is indicated in all cases of hydronephrosis and pyonephrosis in which, from the size of the swelling or on account of adhesions, lumbar nephrectomy cannot be performed. It is also preferable to the lumbar operation, where a positive diagnosis cannot be made and where, between these diseased conditions and other fluctuating tumors of the abdomen, extirpation of a hydronephrotic or pyonephrotic kidney is contraindicated by disease of the opposite kidney or the general debility of the patient.

TUMORS OF OMENTUM MAJUS.

Tumors of the large omentum give rise early to pain or a sensation of discomfort, by causing traction upon the transverse colon by their weight. As a rule, tumors of this structure are found in the umbilical region, and have no connection with adjacent organs, hence they are movable in all directions, except downward. The differential diagnosis between omental and intestinal tumors in the same region rests upon the complexus of symptoms caused by the latter group, from their anatomical location interfering more or less with the functions of the intestinal tract. In the examination of an omental tumor it must be remembered that it is in immediate contact with the anterior abdominal wall, consequently its presence will be indicated by an area of dulness on percussion corresponding to the size of the tumor. If the area of dulness remains permanent and unchangeable, it would be an indication that the tumor has become adherent, or that the tumor is not omental but parietal. Primary malignant disease of the omentum, if it could be recognized early, would offer most favorable conditions for successful radical extirpation by abdominal section. Cystic tumors and echinococcus cysts are most favorably located for successful treatment by abdominal section and drainage.

TUMORS OF MESENTERY.

Aggressive surgery is gradually, but surely, encroaching upon the most remote tissues within the abdominal cavity, thus extending the benefit to be derived from direct local treatment to the most distant pathological conditions.

A few years ago, M. Tillaux extirpated successfully from the mesentery a glandular tumor, which had undergone degenerative changes. The patient was a man, aged thirty-one years, in excellent health, who was taken suddenly ill without apparent cause. The most prominent symptom was a violent pain in the abdomen, which compelled him to remain immovable for about fifteen minutes. The pain returned after a short interval with unmodified intensity. The following day the suffering continued in spite of anodynes, which were given freely. He was now removed to the hospital, where, on examination, a round tumor was found in the abdomen, which was thought to be a floating kidney. The patient suffered with obstinate constipation and pain for twenty-five days, when the pain became paroxysmal, and always aggravated when he attempted to take food. He only obtained relief when he sat on his bed bent double, with his head resting on his knees. At this time M. Millard diagnosticated chronic invagination of the intestines. About thirty-eight days from the beginning of the illness, abdominal section was performed by Tillaux. The abdomen was opened sufficiently to permit the introduction of the hand. Inserting the hand, he found a round tumor about the size of the head of a fœtus at term, situated upon the right side of the mesentery which fastened the intestine to the spinal column. The tumor was recognized as a cyst of the mesentery. This was punctured, and subsequently incised, and evacuated from it caseous matter resembling thick cream. Catgut ligatures were then thrown around the base of it, tied, and then the whole of the tumor cut off above them. The pedicle was touched with a strong solution of carbolic acid, the organs returned, and the wound closed. The pain ceased promptly, and the recovery of the patient was complete. The histological examination of the tumor showed it to be composed of a lymphatic gland containing the products of caseous degeneration.

This case illustrates that it is comparatively safe to remove tumors of the mesentery by ligation or enucleation, while, on the other hand, extirpation of tumors, requiring for their removal the excision of a corresponding portion of the mesentery, is a vastly more serious and difficult operation.

Wölffler reports a case of this kind. In this case a fibroma of the mesentery, weighing one and a half pounds, was removed with the mesentery, and a corresponding portion of the intestine 115 cm. in length. The ends of the bowel were brought together with sutures. The patient survived the operation only twenty-four hours.

Wölffler suggests that in the future enterectomy, in connection with extirpation of tumors of the mesentery, should be followed by enterorrhaphy only in cases in which the site of operation involves the movable portion of the bowel, as the cæcum, transverse colon, and sigmoid flexure, while in other localities no attempt should be made to unite the resected bowel, but the efforts of the surgeon should cease with the formation of an artificial anus. That this advice is not tenable in all cases becomes apparent, as, for instance, if the tumor is located in the mesentery of the upper portion of the intestinal canal, the physiological exclusion of such a large intestinal surface would be incompatible with a proper maintenance of digestion, assimilation, and nutrition. My experience on animals in extirpating the

pancreas has satisfied me of the tolerance of the small intestine to even extensive detachment of the mesentery. If it can be accomplished without producing mechanical obstruction of the bowel by flexion, it would be advantageous to approximate the vascular supply by suturing the mesenteric wound. This course also suggests itself as an important measure in preventing a defect in the mesentery which might subsequently become a source of internal strangulation.

Hamerton has collected eight operations done for extirpation of tumors of the mesentery, of which only one appears to have recovered. This case was operated upon by Spencer Wells, who removed a tumor the size of an adult head. A microscopical examination showed that the tumor was a spindle-celled sarcoma. In a recent communication in the *Lancet* Mr. Wells informs us that the patient has remained free from a recurrence of the disease, and remains otherwise in good health since the date of operation, June, 1882. In all benign tumors of the mesentery enucleation should be preferred to excision, so as to preserve intact as much as possible of the mesenteric circulation.

There can be no question that mesenteric detachment is more likely to be followed by gangrene of the bowel if enterectomy is performed, than when the continuity of the intestinal tube is preserved.

RETROPERITONEAL TUMORS.

The extirpation of a retroperitoneal tumor by laparotomy must be looked upon as one of the most serious and difficult operations in surgery. Aside from the unusual difficulties encountered in arriving at correct conclusions as to the exact seat and nature of tumors in the retroperitoneal space, the technique for their removal remains to be improved by future research and experimentation.

Dr. Homans has reported two cases of retroperitoneal tumors removed by abdominal section. In the first case the operation was performed for a myxo-lipoma in a man thirty-nine years of age; the tumor had been growing for two and a half years. The second patient was a woman, sixty years of age, suffering from a lipoma. The tumor was located in both cases on the right side. In the first case another tumor was found in front and toward the left of the spine, which could not be removed. Both patients died soon after the operation. In the first case the mesentery of the ascending colon was detached to gain access to the tumor. Homans very properly warns against such extensive deprivations of vascular supply to the bowel in thi particular locality. He advises, under such circumstances, either enterectomy and enterorrhaphy, or the formation of a preternatural anus. It would seem that in some of these cases, in which the tumor is of moderate size, the operation would be easier, and the results better, if a lateral abdominal incision were made without opening the peritoneal cavity. In approaching the tumor through the peritoneal cavity after dividing the overlying peritoneum, the enucleation of the tumor should be accomplished by the use of blunt instruments, and with special care to preserve the integrity of the mesenteric vessel, so as to avoid, if possible, the necessity of enterectomy and enterorrhaphy.

CONCLUSION.

The foregoing fragmentary and imperfect sketch of the present status of abdominal surgery will, I hope, at least serve the purpose of impressing upon you the importance and magnitude of this, the most recent, department of surgery. I have attempted to allude to the defects as well as the advances, the failures as well as the triumphs. The results already obtained by the surgical treatment of injuries and diseases of the abdominal organs are indeed gratifying, and bear abundant evidence of the good and faithful work which has been accomplished. The greatest achievements of abdominal surgery, however, necessarily belong to the future. This new territory, so recently acquired by the surgeon, has been only partially explored. New operations will be devised, and old ones improved. Diagnosis will be made more certain by a careful study of symptoms, and a more thorough knowledge of the physiology and pathology of the abdominal organs. Experimental research will clear up many obscure points in the causation of disease which will lead to new and improved methods of treatment. With all these prospects before us, let us not remain idle. Abdominal surgery is of American birth. Let us cherish our own offspring. The world holds us responsible for its healthy growth and development. McDowell, Gross, and Sims, the distinguished fathers of abdominal surgery, have left us in charge of an important and sacred trust. Let us labor in this department honestly, unceasingly zealously, as faithful guardians of the promising infant, until it shall have attained vigorous, perfect manhood, a source of pride to its illustrious parents, a perpetual fountain of blessing to a suffering humanity, and a priceless honor to American surgery.

ORIGINAL ARTICLES.

A CASE OF AORTIC ANEURISM TREATED BY THE INSERTION OF WIRE.[1]

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THE subject of an aneurism never fails to arouse the interest of the surgeon. Happily, the progress of our art has been such that he who is thus afflicted needs, as a rule, no longer to consider himself an object of scientific interest solely, but, with at least fair prospects of a successful issue, may rely upon one or other of the methods recognized as radical in the treatment of his disease. There are cases, however, and notably those of the aorta, which are not amenable to ligation or compression, and in which despite medicinal treatment and the observance of absolute rest, a rapidly fatal result must be predicted. Such cases ought not to be forsaken without an effort to save. As our science stands to-day, we are restricted to a choice between distal ligation, galvanopuncture, and the introduction of foreign material into the sac of such aneurisms. It is to the latter method only that I now beg to direct attention. The cases of aortic aneurism in which it has been adopted are so few that the report of the following case may prove interesting if not instructive.

CASE I.—Alfred P., æt. thirty-five, colored, presented himself at the dispensary of the Medical

[1] Read before the Section of Surgery and Anatomy of the American Medical Association, May 11, 1886.

College of Ohio, and was admitted to the Good Samaritan Hospital in May, 1885. Had been a moderate drinker, but had always enjoyed good health. Had a chancroid several years ago, but had never had syphilis. In August, 1884, while pulling an oar he made a very sudden and strenuous effort, which was followed by a sharp stinging pain in the right side of chest. Pain has been constantly present since. Difficult breathing, more or less severe cough, and inability to do hard work have gradually supervened. Slight exertions are often followed by paroxysms of dyspnœa that threaten to terminate life. From the 24th of February to the 27th of April the patient was an inmate of the Cincinnati Hospital, where, according to the records, he was kept at rest and upon iodide of potassium, but without marked benefit.

Status Præsens.—Man well nourished and of good muscular development. Breathing labored, short, and frequently interrupted by spells of coughing, whereby a thick, tenacious mucus is expelled. A marked œdema of the root of the neck, and extending to the right side of the face and shoulder, is observed. Inspection of the chest reveals a conical prominence of the right side of the sternum and extending over the second and third intercostal spaces. The projection is as large as a fist, pulsates perceptibly, but presents no discoloration of the integument. On palpation a pronounced expansile pulsation is felt from below the clavicle to the fourth rib and from the right margin of the sternum to half an inch beyond the mammary line. The tumor is very soft, fluctuating, and exceedingly sensitive to pressure. Percussion elicits a dull sound. No thrill can be felt. Auscultation over the tumor reveals no adventitious sounds produced within it. The cardiac sounds are transmitted with more than ordinary clearness, and particularly is the accentuation of the aortic sound noticeable. The position of the apex beat is normal. While the patient is at rest his pulse is 100. According to the sphygmographic tracings taken by the late Dr. Keyt, the pulsation in the radials is synchronous, and the pulse-waves agree sufficiently in form. Auscultation over the right lung reveals a harsh inspiratory noise below the angle of the scapula. Coarse mucous râles are audible over both lungs.

Diagnosis.—Sacculated aneurism of the ascending aorta, with perforation of the chest-wall, unattended by atheroma or cardiac hypertrophy.

Treatment.—When the patient was admitted to the Samaritan Hospital he was placed in bed and kept as much at rest as the cough and dyspnœa would permit. His diet was greatly restricted, and twenty grains of the iodide of potassium given three times a day. For a week this treatment, with the administration of a hypodermatic injection of morphia at night, was continued with apparent benefit. The pain and dyspnœa were somewhat diminished and the pulse rate reduced to 90 per minute. No perceptible change in the aneurism occurred. The improvement in the condition of the patient was dissipated two weeks after his admission, after a severe spell of vomiting, which was followed by an increase of pain and dyspnœa and protracted epistaxis. When the irritability of the stomach had been allayed the administration of the iodide was resumed, but without marked benefit. During the third and fourth weeks of the patient's stay in the Hospital six subcutaneous injections of ergotine were made in the vicinity of the tumor, with but faint hopes of benefiting him. While no direct detriment to the diseased vessel resulted from them, they were followed by so much pain that they were discontinued.

It was at this time that Loreta, of Bologna, reported his favorable case of aneurism of the abdominal aorta, in which he had given a new and striking impetus to Moore's method of treating aneurisms which, from their position, are not remediable by ordinary surgical procedures. Recognizing the otherwise hopeless condition of the patient, and after consultation with my colleagues, Drs. Whittaker and Nickles, it was determined to insert a coil of wire into the sac, in the hope of causing its obliteration by the formation of a firm, organizable clot. The material used was flexible silver wire (which had frequently been coiled by passing it into a box of the apparent dimensions of the aneurism).

Operation.—June 13, a straight hollow needle with thumbscrew attachment was pushed into the aneurism from the right side. The needle was directed parallel to the chest-wall to avoid, so far as possible, the entrance of a coil into the lumen of the main vessel. Ninety-six inches of wire were thus introduced into the aneurismal sac without any technical difficulty. The pain experienced was very slight, and during the introduction of the first four feet of wire the pulse continued unchanged. It suddenly became almost imperceptible and very rapid. The patient complained of great faintness, and it appeared that death was imminent. After the administration of several injections of whiskey, the pulse gained in strength, and the remainder of the wire was introduced without further interruption. The end of the coil was pushed into the sac by a second piece of wire, which was withdrawn with the canula. No hemorrhage attended or followed the operation. An icebag was applied over the aneurism and an opiate administered.

On the day following the operation an amelioration of all the symptoms was noticeable. The œdema of the neck had materially subsided, the pain had diminished, the tumor was decidedly firmer in its outer portion, and the pulsation was very much less marked than before the operation. From day to day, for a period of two weeks, the condition of the patient gradually improved. The pulse rarely exceeded 80, was regular, and of fair volume. The temperature, except on the second day, was practically normal. The dyspnœa and cough were no longer distressing, and it seemed certain that the organization of a firm clot was in progress. The outer portion of the tumor had become quite firm, and fluctuation in it was no longer appreciable.

In the last days of June a change for the worse supervened—a change which coincided with increased pulsation and greater prominence of the internal segment of the tumor. The œdema of the neck, right side of the face, and right arm, became greater

than at any previous period. The right eye was completely closed. The patient now could sleep only on this side. In the hope of consolidating this part of the sac, a second operation was performed on the 5th of July, whereby ninety-eight inches of wire were inserted into the sternal portion. Considerable pain, but no distress attended this operation. The symptoms remained unchanged. The region of the tumor had become quite sensitive within three days after the operation. A distinct induration of the tissues over the tumor was perceptible, and the pulsations appeared less marked. Hopes were still entertained of material improvement, when the patient was found dead in bed on the morning of the 13th of July.

Autopsy.—Made by Dr. F. Gebler, Pathologist of the Samaritan Hospital. The body is that of a negro, well nourished, and about forty-five years of age. Post-mortem rigidity well marked. The right side of the face, neck, right arm, right side of the trunk, and the right lower extremity, are markedly œdematous. On the right side of the chest from the clavicle to the nipple is a swelling conical in form, having a base four inches in diameter. To obtain the specimen in its entirety, the right half of the anterior chest-wall was removed, together with the heart, aorta, and trachea. When the necessary incisions were made, the right pleural cavity was found filled with blood, the right lung being compressed, but not adherent.

From the anterior surface of the ascending aorta there springs an aneurismal tumor, which has a long diameter of seven, and transverse diameter of four, inches. The mouth of the tumor is an inch wide and circular. Its lower margin is one inch removed from the commencement of the vessel. In the posterior and outer part of the aneurism, where it is covered by the mediastinal layer of the pleura, is an opening a little larger than a silver dime, where the aneurism had ruptured. When the tumor was opened from behind, there was found in the upper and outer third of the sac a firm laminated clot of considerable thickness and adherent to the sac wall. The walls of the remaining portions of the aneurism were covered with a thin layer of fibrin, the interior being filled with soft coagula of recent formation. Throughout the sac of the aneurism, embedded in firm and recent clots, are numerous coils of silver wire. One of these rests just above and in close relation to one of the leaflets of the aortic valve. Near the seat of the rupture no wire is found. When the clots were removed from the sac it was found that the second and third ribs were perforated and the anterior wall of the external cavity was largely made up of the pectoral muscle, which contained about two feet of closely coiled wire. Subsequent dissection of the specimen showed that the aneurism pressed severely upon the right bronchus and the right innominate vein. Indeed, the latter could not be completely exposed without endangering the sac wall. The orifices of the large arterial trunks springing from the transverse arch were found pervious, and evidently the circulation in them during life was uninfluenced by the dilatation of the ascending part.

In a case like the one presented, comment should be directed toward the solution of four questions:

First. Was the operation justifiable?

Second. To what extent did it imperil the life of the patient?

Third. Did it offer any prospects of a radical cure of the aneurism?

Fourth. Do the cases hitherto reported, in which this plan has been tried, warrant its repetition?

1. It can hardly be questioned that in the case before us medicinal and postural treatment were tested and found inefficient. The choice remained between galvanopuncture, the introduction of wire, and distal deligation. Were the favorable reports of Ciniselli corroborated by others, his method would certainly have been resorted to. According to the most recent and weighty authorities, electrolysis fails, as a rule, to be of more than temporary benefit. Of eight cases referred to by Poore, all terminated fatally. Indeed, it is justly questioned whether the method accomplishes more than acupuncture, and in a recent successful case of aneurism of the root of the neck treated by galvanopuncture, it was found that the current was almost *nil*. In the absence of atheromatous changes in the arteries my choice would have been distal deligation. I was

Appearance of the aneurism post mortem.

deterred from following it because the dyspnœa was so intense and the œdema of the neck so pronounced that there was every probability of death during the operation. The introduction of wire was, therefore, practised as a last resort.

2. That the life of the patient was imperilled by the operation is certain. The specimen shows that notwithstanding the caution observed in introducing the wire, a loop passed beyond the neck of the sac entered the aorta, and was probably deflected by the semilunar valves. When this occurred, syncope, which was all but fatal, supervened. I was the less prepared for this mishap, since it had not occurred in the few cases previously recorded; furthermore, according to Bacelli, the absence of cardiac hypertrophy made the existence of a large aperture of communication exceedingly improbable.

Even with a loop of wire in the aorta, embolism, the danger most dreaded, did not occur. In only one of the reported cases, that of Moore, did death result from embolism, which possibly originated in an inflammatory state in the heart itself, and not in the aneurism. The supposition that a severe hemorrhage might ensue upon the prolonged retention of a canula in the sac-wall is purely theoretical. Neither in this case nor in those already published was there any bleeding during the operation nor immediately after the withdrawal of the needle. In Loreta's case of abdominal aneurism, in Levis's case of aneurism at the root of the neck, and in my own, death resulted from rupture of the sac. In the case reported by Levis the rupture occurred on the fourth day. In Loreta's case the tumor had consolidated to such an extent as to weaken the main trunk, which gave way at the neck of the sac. In the case here presented, this explanation will not suffice, since neither coagula nor loops of wire were found near the seat of rupture. This took place despite the operation, and not in consequence of it.

3. To the extent that physical signs can be construed to indicate the condition of the contents of an aneurism, those of the case presented precluded the existence of organizable coagula before surgical interference was undertaken. The tumor was soft, even fluctuating, pulsating forcibly, and rapidly increasing in size. The physical signs after the operation indicated the beginning of an attempt at a radical cure. The induration of the tumor, its decreased pulsation, and the simultaneous improvement in the symptoms justified a belief in the formation of an "active" clot. Post-mortem evidences confirm the belief. The walls of the sac are lined with firm, the interior with firm and loose coagula, embedded within which are the coils of wire. Similar conditions were found in the cases of Moore, Donville, Bryant, Bacelli, Schrötter, Loreta, and Caley. In almost all of these, however, all parts of the aneurism were not alike affected by the treatment, and it is, therefore, certain that very decided improvements in the technique of the operation, and particularly in the material introduced, must be devised before more than a partial or temporary coagulation shall result. It is not improbable that a less rigid, and hence less dangerous, material than wire or watchsprings will be determined upon. The firmness of the wire loops prevents unlimited diminution in the size of the sac during the process of contraction, and, as was probable in Loreta's case, may lead to rupture near the attachment of the sac to the main vessel. Watch-springs are readily changed chemically by their immersion, and, as happened in Bacelli's cases, are subject to breakage. To overcome these objections, Levis, Bryant, and Stimson have inserted horsehair, Murray catgut, and Schrötter Florence silk. In Murray's case, as was to be expected, the gut was found softened and without coagula about it. Whatever faith we can have of permanently relieving these cases should be centred in horsehair rendered aseptic. It is easily passed through a canula, and in large quantity; it coils readily, and is easily compressed. The report of Loreta's case influenced me in the choice of material used.

4. To determine the propriety of repeating the operation, at least a brief *résumé* of the literature of the subject is essential. This method of treating aneurisms may be said to have originated with Phillips,[1] who advised the retention of a seton for half an hour. Later, Sir E. Home[2] introduced heated needles into an iliac aneurism and thereby achieved coagulation. Velpeau, Agnew, Heath, Murray, Buck, and many others, have since resorted to acupuncture, but without notable success. The last named author, from his experience in two cases of aortic aneurism, considers the procedure inadmissible. In one of his cases threads of silk, in another suture pins were allowed to remain in the sac for twenty-four hours or more. Laminated clots were developed.[3] Richet mentions five cases in which acupuncture was tried without good results.[4] The most successful cases in which acupuncture has been resorted to, are those of Macewen[5] of popliteal and ileo-femoral aneurisms respectively. Fine needles were introduced into the tumors and retained for an hour, but were moved from place to place every ten minutes. Here, as in Rizzolo's case[6] of femoral aneurism, compression was used at the same time, and probably played the more important *role* in the production of a thrombus. In both instances digital compression was resorted to after the withdrawal of the needles. Murray,[7] in a case of subclavian aneurism, by repeated trials of complete transfixion with long needles achieved partial consolidation.

CASE II.—The first case of the permanent introduction of a foreign body into an aneurism was that reported by Mr. Moore,[8] of the Middlesex Hospital, in 1864. The case selected was one of large thoracic aneurism which was on the point of bursting both into the pericardium and through the skin. Twenty-six yards of fine iron wire were inserted through a fine canula the point of which was moved about during the operation. Rapid coagulation and temporary arrest of pulsation followed. The pulse-rate was reduced from 116 to 78. The improvement was transitory. Severe

[1] North Amer. Arch., July, 1876. Quoted by P. Vogt. Real-encyloped., Bd. i. p. 317.
[2] Philosph. Trans., 1796.
[3] Buck. N. Y. Med. Rec., vi. p. 140.
[4] Richet. Syst. of Surg., Holmes' Eng. ed., iii. p. 514.
[5] Lancet, 1877, ii. p. 536.
[6] Ref. Handbook, vol. i. p. 213.
[7] Ibid.
[8] Medico-chirurg. Transactions, xlvii. p. 129.

inflammation of the sac and contiguous tissues supervened and the patient died on the fifth day. Pericarditis was presumably the immediate cause of death. Abscesses were found in the kidneys, but it is doubtful whether they were of recent origin.

CASE III.—March 23, 1871, Dr. Domville[1] inserted fourteen inches of fine iron wire into an aortic aneurism that had perforated the chest-wall. The tumor became firmer, but continued to increase; on the 9th of April, nine needles, each two and one-half inches long, were introduced. Fatal hemorrhage supervened two weeks later. The foreign substances were found embedded in a firm clot.

CASE IV.—May 14, 1872, Wm. Murray, of Newcastle, reported a case to the Medico-Chirurgical Society, in which a man lived for three weeks with twenty-four feet of wire introduced into an aortic aneurism.[2]

The next cases operated upon were those of Levis, of Philadelphia, Bryant, of London, Bacelli, of Rome, and Stimson, of New York.

CASE V.—The case of Levis[3] was one of right subclavian aneurism into which twenty-four feet of horsehair were inserted. The patient succumbed on the fourth day from rupture of the sac.

CASE VI.—Mr. Bryant's[4] case was one of popliteal aneurism in a man with ulcerative endocarditis and "chonic heart disease." Daily attempts were made with compression, which was continued for hours at a time. Epistaxis supervened and the patient was evidently sinking. Twenty feet of horsehair were then introduced into the sac and produced rapid coagulation. Death four days after the operation. The horsehair was found entangled in huge laminated clots. The cases of Bacelli[5] were all of the aorta, and watchsprings were used.

CASE VII.—The first patient was operated upon on the 27th day of March, 1873. By the 4th of April the cough was less severe, the pulsation less marked, and the tumor had decreased in size. The patient died on the 26th of May. The autopsy revealed an aneurism of the ascending aorta which contained laminated clots surrounding six fragments of the watchsprings. The internal surfaces of the aneurismal wall were covered with fibrinous layers.

CASE VIII.—Bacelli's second case occurred in 1877. On the 23d of April he introduced three watchsprings of a total length of five feet. The tumor decreased in size and pulsations almost ceased. The patient did well until examined by a considerable number of medical men, when she commenced to fail. She died on the 3d of May. At the autopsy the sac was found filled with clots containing parts of the spiral spring, but the coagula were not adherent to the sac wall. This separation Bacelli attributes to the examination alluded to.

CASE IX.—This author operated on a third case in the presence of the delegates to the Sanitary Conference at Rome. Through an exploring needle he introduced seven watchsprings each twenty inches long. Death resulted on the third day, apparently from exhaustion.[6]

CASE X.—Dr. L. A. Stimson introduced fifteen pieces of horsehair each six inches long into a ileo-femoral aneurism with an entirely different result. Coagulation did not ensue; favorable result was subsequently obtained from ligation of the iliac.[7]

[1] Stimson. Refer. Handbook, vol. i. p. 213.
[2] Brit. Med. Journ., 1872, vol. i.
[3] Phila. Med. Times, March 28, 1874. According to Agnew, Levis made another unsuccessful attempt in an iliac aneurism, and Maury met with a bad result in one of the subclavian.
[4] Trans. Patholog. Soc., 1877, p. 103.
[5] Rev. crit. sur le traitement des Anev. de l'Aorta. Bull. gén. de Ther., 1878, vol. xcv.
[6] Brit. Med. Journ, June 20, 1885.
[7] Amer. Journ. Med. Sci., lxxx. p. 64.

CASE XI.—November 9, 1883, Prof. Schrötter, of Vienna, inserted twenty inches of Florence silk into the outer segment of an aortic aneurism that had perforated the chest wall. On the 13th thirty inches of the same material were pushed into the lower segment of the tumor. The aneurism became firmer and pulsation less marked. It subsequently increased in all its dimensions, while intense œdema developed in its immediate vicinity. The temperature rose rapidly, probably from inflammation of the sac, and death resulted from œdema pulmonum on the 28th of November. The extra-thoracic part of the sac was filled with a laminated clot in which was found the Florence silk deposited in spiral coils.[1]

CASE XII.—In December, 1885, Loreta,[2] of Bologna, after a careful study of other operative procedures in similar cases, resorted to laparotomy in a case of sacculated abdominal aneurism. The tumor was situated in the epigastrium and left hypochondrium. There was a loud bruit. The pulse was hardly perceptible in the femoral arteries, and ceased altogether when the tumor was compressed. Loreta determined, if possible, to separate the sac from its connection, and to close its opening out of the artery by suture or ligature. If this should prove impracticable, it was determined to stuff the cavity with wire. At the operation, at which the incision was made from the xiphoid cartilage to the umbilicus, the sac was found united to the stomach, omentum, transverse colon, and liver. It was impossible to sever these adhesions, and therefore to trace the aneurism to its mouth. A little more than two yards of silvered copper wire were then inserted into the tumor through a canula, and the point of puncture was lightly touched with pure carbolic acid. There was no bleeding. The abdominal wound was closed and healed by first intention. By the seventieth day after the operation, the tumor, which had been as large as the head of a newborn child, was reduced to the size of a walnut, and was firmly consolidated. The patient left the hospital cured. On the ninety-second day, however, he died of rupture of the aorta below the sac. This was filled with consolidated fibrinous clots. Loreta attributes the rupture to an ischæmia of the aortic tunics due to compression and to changes going on in the interior of the sac.

CASE XIII.—The last case published is that of W. Cayley,[3] reported to the Royal Medical and Chirurgical Society, February 23, 1886. The patient was a man, aged forty-eight, with a pulsating tumor, rising about three inches into the neck behind the right sterno-clavicular articulation. The patient was unsuccessfully treated according to Tufnell's method, and given large doses of iodide of potassium. The tumor increased in size, and it was evident that it must either soon burst externally or extravasate among the tissues of the neck. On June 24th, Mr. Hulke introduced forty feet of steel wire. This caused no constitutional disturbance or local pain, and this portion of the aneurism became completely consolidated. Toward the middle of August, signs of the extension of the intrathoracic portion of the tumor became more marked, and there was an increase of pulsation behind the sternum and toward the left sterno-clavicular articulation. To anticipate fatal pressure on the trachea, Mr. Gould, in the absence of Mr. Hulke, introduced a canula just above the left sterno-clavicular joint, directing the instrument obliquely toward the middle line, and inserted thirty-four feet nine inches of wire. No constitutional disturbance followed, but no relief was given to the symptoms. The patient died in a paroxysm of dyspnœa on the 19th of Septem-

[1] Deutsch. Arch. f. klin. Med., vol. xxxv. p. 139.
[2] Mem of the Roy. Acad. Bologna, vol. vi. sec. iv., Brit. Med. Journ., 1885.
[3] Brit. Med. Journ., February 27, 1886.

ber. On post-mortem examination, a large aneurism was found springing from the ascending aorta and communicating with the vessel by a very large orifice; the whole of the upper portion was completely filled by a clot, embedded in which was the wire. The lower portion of the sac caused compression and flattening of the trachea just above its bifurcation. The first operation produced the desired result in preventing the imminent rupture of the aneurism. The size and connections of the sac rendered the second operation ineffectual.

CASE XIV.—In the discussion of this case Dr. J. Liston Paul[1] reported a case of innominate aneurism under his care in 1874, which had been treated according to this method. The tumor bulged forward on the left side of the sternum. Fifteen feet of cleansed white horsehair were introduced. Slight pain and pricking over the tumor followed. In three days the tumor had grown larger and gave greater distress. On the fourth day the patient died in a convulsion. No search for emboli was made.

It is not remarkable that with such a record of failures the method under consideration has been pronounced "utterly useless" by so competent an authority as the late Dr. Gross, and that Agnew condemns it as "a rash, if not criminal trifling with human life." The fourteen cases in which it has been tried terminated fatally, with the exception of Stimson's case, in which the result was entirely negative. Still, analysis of the record tends to show that the criticisms just quoted are undeservedly severe, and that there are ample reasons for repeating the operation in suitable cases. In the first place, death has in no instance ensued during the operation, although after examining the specimen before us, the possibility of such an occurrence must be conceded. Again, considering the gravity of the disease, the insertion of foreign material into an internal aneurism is not particularly hazardous. In the third case of Bacelli, and in those of Moore, Levis, and J. Liston Paul, death followed on or before the fifth day after the operation, so that in only thirty per cent. of the cases can death be attributed to the operation itself, while in the remainder it in no way depended upon it.

In conclusion, the post-mortem reports that are available show that coagulation almost invariably took place in the sac, and when sufficient time elapsed before death, the clot was found laminated and often adherent to the sac wall. In some of the cases, at least, progress was made toward a cure. The aneurismal wall was strengthened, the tumor, as a rule, decreased in size, and life was made bearable, and even prolonged. This, I think, was accomplished in the first case of Bacelli, in that of Loreta and of Cayley, and probably in the one above reported. In all these cases death was imminent from compression of vital structures or from threatened rupture of the sac. Life was sustained for periods varying from three weeks to as many months from the date of operation. In view of these facts, and notwithstanding the failure of the method in effecting a cure, it appears to me that the practice is worthy of further trial. Of course, it should never be resorted to in aneurisms of peripheral vessels when so many safer methods are at our command. Nor is it admissible in internal aneurisms until all ordinary therapeutic measures have been fairly tried. Practised as a last resort in such cases, it has undoubtedly lengthened life, and it is far from improbable that, if often adopted, a permanent recovery will occasionally be obtained in cases that are hopeless without it.

[1] Brit. Med. Journ., February 27, 1886.

A NOTE ON LAPAROTOMY FOR INTESTINAL OBSTRUCTION.

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IN the valuable paper read by Dr. N. Senn before the American Medical Association, on "The Present Status of Abdominal Surgery," and in that part of it devoted to the discussion of laparotomy for obstruction of the bowels, I observe the following remark: "A dilated intestine would indicate that the cause of the obstruction is lower down, *while a collapsed bowel can only be expected on the peripheral side of the obstruction.*" (Italics mine.)

Dr. Senn expresses in this remark what seems to be a self-evident fact, and one which I would not have questioned six weeks ago. But I have since had an experience which proves the contrary. On April 3, I had occasion to do laparotomy for obstruction. The first object which presented itself at the abdominal wound was a *knuckle of collapsed small intestine.* I inferred that the obstruction was above the presenting gut. Upon enlarging my incision upward I was amazed to find the transverse colon distended to the point of bursting, the peritoneal coat being ruptured in several places. The obstruction proved to be a stricture of the sigmoid flexure.

On May 2, I performed the same operation for the same cause. Remembering my former experience, as soon as the peritoneal cavity was entered I examined the first loops of small intestine presenting. *They were collapsed.* The cæcum was distended, as was also the sigmoid flexure. The obstruction, as before, was a stricture of the sigmoid flexure.

I deem these observations sufficiently important to justify separate publication. A knowledge of what they teach would, in one of my cases, have saved much unnecessary exposure of the intestines.

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MEDICAL PROGRESS.

THE DIAGNOSTIC VALUE OF THE ABSENCE OF PUPILLARY REFLEX.—UHTHOFF, of Berlin, has found 136 instances of pupillary immobility in 550 cases of nervous disease, and 12,000 eye cases. The cases were distributed as follows:

1. *Tabes*, 92 cases, 67.6 per cent. In 6 cases the diagnosis was not perfectly certain, and in 4 the light reaction was not completely absent. In 29 of the cases there was optic atrophy, in 15 ocular paralysis, in 5 paralysis of accommodation in one eye, in 12 marked difference in the size of the pupils—*i. e.*, in about one-fourth of the cases of tabes where it was accurately noted.

2. *General Paralysis*, 12 cases, 8 per cent. Complicated in 4 cases, with optic atrophy.

3. *Syphilis*, 11 cases, 8.1 per cent., including cases of

cerebral syphilis and of syphilis without cerebral symptoms.

4. *Other Cerebral Diseases*, 8 cases, 5.8 per cent., including 2 cases of head injury with other paralyses, 2 cases of cerebral tumor (1 with neuritis), 1 case of hydrocephalus, 1 of post-neuritic atrophy, 1 of hemiplegia, and 1 of pachymeningitis.

5. *Multiple Sclerosis*, 2 cases, 1.4 per cent. The diagnosis in one case not absolutely certain.

6. *Railway Spine*, 2 cases, 1.4 per cent. The reaction in one case noted as very slight.

7. *Congenital*, 2 cases, 1.4 per cent. In both cases with rudimentary development of iris.

8. *Head Injury*, 1 case, 0.7 per cent., with strong alcoholic history; no other cerebral symptoms.

9. *Aneurism of Innominate Artery*, 1 case, 0.7 per cent.

10. *Congenital Imbecility*, 1 case, 0.7 per cent., combined with retinitis pigmentosa and great concentric narrowing of visual field.

11. *Abuse of Tobacco*, 1 case, 0.7 per cent.

12. *Hystero-epilepsy*, 1 case, 0.7 per cent., with previous ocular paralysis and possibly a gross lesion.

13. *Right Hemianæsthesia*, 1 case, 0.7 per cent., combined with inequality of pupils; diagnosis still doubtful.

14. *Cause unknown*, 3 cases, 2.2 per cent.

In these two groups of patients, tabes is naturally a much more frequent cause of loss of pupillary reflex than is general paralysis. Among the 58 cases of tabes observed in Westphal's clinic, the light reaction was completely absent in 55.5 per cent., and was extremely feeble in a further proportion of cases, bringing the percentage up to 64. Erb finds it absent or extremely slight in 84.5 per cent. of cases of tabes. Paresis of accommodation was present in only 5.4 per cent., but contraction of the pupil with convergence was much oftener absent. The pupils differed in size in about one-fourth of the cases of tabes, much less often than in general paralysis. Of the 11 cases of syphilis, 8 had well-marked symptoms of cerebral syphilis. Of the other 3, two were children who had suffered from hereditary syphilis; and the remaining case was of interest, in that the loss of pupillary reflex was, with the exception of loss of memory, etc., the single symptom remaining of past cerebral syphilis with paralysis of both third nerves. The fact that loss of pupillary reflex occurred in two cases of "railway spine" seems to Uhthoff to show that in some of these cases at least there is an anatomical change. Some of the remaining cases were not sufficiently long under observation for the diagnosis to be certain.

The above classification is exclusive of cases where the absence of pupillary reflex was combined with loss of accommodation — the ophthalmoplegia interna of Hutchinson. Of this condition 30 cases occurred.

1. *Syphilis*, 8 cases—*i. e.*, 23.3 per cent.; 6 unilateral, 2 bilateral.

2. *Tabes*, 3 cases—*i. e.*, 10 per cent.; 2 unilateral, 1 bilateral.

3. *General Paralysis*, 2 cases—*i. e.*, 6.6 per cent.; 1 unilateral, 1 bilateral.

3. *Injury*, 2 cases—*i. e.*, 6.6 per cent.; both unilateral and both with dislocation of lens.

5. *Severe Chill* (?), 1 case—*i. e.*, 3.3 per cent.; unilateral.

6. *Commencing Tubercular Meningitis*, 1 case; bilateral.

7. *Cerebral Tumor*, 1 case.

8. *Cause unknown*, 12 cases—*i. e.*, 40 per cent.; 7 bilateral, 5 unilateral.

Syphilis is evidently by far the most common cause of this affection; tabes and general paralysis but rarely producing it. In syphilitic cases it is almost invariably unilateral; and in one case where it was bilateral the second eye was affected years after the first. The history of syphilis, where it could be definitely obtained, dated back seven to eight years. In 40 per cent. of the cases there was no evident cause. These were chiefly young people, twenty to thirty years of age. The affection was generally bilateral and temporary, sometimes lasting only a day, but in one case permanent and stationary for twenty years, generally attacking both eyes at the same time, and accompanied by other nervous phenomena—points distinguishing these from the syphilitic cases. They naturally suggest some form of poisoning, but inquiry failed to substantiate this supposition.

Uhthoff states some exceptions to the rule that the sphincter paralysis and the failure of accommodation come on together. He also records a case of peculiar oscillatory contractions of the pupil in a patient with cerebral syphilis and loss of light reaction, these contractions being constant and independent of the illumination of the pupil. He closes with two cases of pupil affection, illustrating the physiological action of cocaine, which should, he considers, be used in cases of difficult pupillary diagnosis.—*Ophthalmic Review*, April, 1886.

ALCOHOLISM.—DR. JAMES C. WILSON makes the following division of alcoholism:

I. Acute alcoholism.
  (A) Ordinary typical form.
  (B) Irregular forms.
    1. Maniacal.
    2. Convulsive.
    3. In persons of unsound mind.
  (C) Acute poisoning by alcohol (lethal dose).

II. Chronic alcoholism.
  (A) Visceral derangements.
    1. Local disorders.
      a. Of the digestive system.
      b. Of the liver.
      c. Of the respiratory organs.
      d. Of the circulatory system.
      e. Of the genito-urinary apparatus.
    2. Disorders of special structures.
      a. Of the locomotor apparatus.
      b. Of the skin.
  (B) Derangements of the nervous system. Cerebro-spinal disorders.
    1. Cerebral disorders. Complications.
      a. Lepto-meningitis.
      b. Pachymeningitis.
      c. Epilepsy.
      d. Cerebral congestion.
      e. Cerebral softening.
      f. Sclerosis.
    2. Spinal disorders.
    3. Disorders of the special senses.
  (C) Psychical derangements.
    1. Alcoholic delirium in general.
    2. Delirium tremens.
    3. Alcoholic psychoses.

III. Hereditary alcoholism.

IV. Dipsomania.

True dipsomania is not a manifestation of alcoholism, but a periodical insanity. The relations of alcohol to it are symptomatological, not etiological.—*Journal of Nervous and Mental Disease*, March, 1886.

SULPHATE OF QUININE AS A STIMULANT TO THE HÆMATOGENIC FUNCTION.—HARE, of Philadelphia, has experimented upon himself in regard to the effect of moderate doses of sulphate of quinine on the quantitative relations of the corpuscular elements of the blood. His results are tabulated below, each numerical statement representing the mean of three observations. He used the apparatus of Malassez, with the mixer of Potain. In taking the dose, the following order was adhered to: Four grains at bedtime, and three grains each after breakfast and after dinner, at midday.

The tables show a very considerable increase in the red blood-corpuscles when the system is under the influence of quinine. It is proper to state that, owing to idiosyncrasy, ten grains of this drug a day produced positive symptoms of cinchonism.

No Drug Used.			Drug Used: 10 grains of quinine per day.		
Date.	Hour.	No. of red blood corpuscles in a cub. millimetre.	Date.	Hour.	No. of red blood corpuscles in a cub. millimetre.
Dec. 28	10 A. M.	5,740,000	Jan. 4	10 A. M.	5,750,000
" "	6.30 P. M.	5,040,000	" "	6.30 P. M.	5,640,000
Dec. 29	10 A. M.	6,142,000	Jan. 5	10 A. M.	5,940,000
" "	6.30 P. M.	5,820,000	" "	6.30 P. M.	6,000,000
Dec. 30	10 A. M.	6,840,000	Jan. 6	10 A. M	6,120,000
" "	6.30 P. M.	6,080,000	" "	6.30 P. M.	5,940,000
Dec. 31	10 A. M.	6,120,000	Jan. 7	10 A. M.	6,180,000
" "	6.30 P. M.	5,640,000	" "	6.30 P. M.	6,120,000
Jan. 1	10 A. M.	5,940,000	Jan. 8	10 A. M.	6,840,000
" "	6.30 P. M.	5,220,000	" "	6.30 P. M.	6,380,000
Jan. 2	10 A. M.	6,060,000	Jan. 9	10 A. M	6,540,000
" "	6.30 P. M.	5,830,000	" "	6.30 P. M.	6,420,000
Jan. 3	10 A. M	5,940,000	Jan. 10	10 A. M.	6,500,000
" "	6.30 P. M.	5,100,000	" "	6.30 P. M.	6,340,000
Average number before drug . .		5,822,286	Average number with drug . . .		6,194,285

—*Boston Medical and Surgical Journal*, April 22, 1886.

THE TREATMENT OF FEVER BY ELECTRICITY.—PROF. E. DE RENZI, having by chance observed a case of quartian fever cured by the application of electricity, instituted a series of experiments in this direction, and has formulated, as a result of these observations, the following conclusions:

1. Fevers of malarial origin resist the action of the electrical current much more than do those symptomatic of bronchitis, pulmonary phthisis, etc.

2. During the application of electricity the temperature remains elevated, or even rises to a fraction of a degree; but soon after, at the most within an hour or two, a fall of several degrees occurs.

3. The best effect is obtained by holding a moist electrode in the hand while a metallic brush attached to the other pole is swept over the surface of the body.

4. Arterial pressure is increased during the application, the skin becomes reddened and often moistened with perspiration, and the pulse is increased in force. It is probable, therefore, that the antipyretic effect of electricity is due to the increased activity of the cutaneous capillary circulation, whereby caloric is more rapidly lost.—*Medical Age*, April 26, 1886.

INFLUENCE OF DIET ON HEADACHE.—In the *Practitioner* for March, 1886, DR. HAIG continues a paper, the first portion of which appeared in the July number of 1884, where he narrated a case in which diet had a marked influence in preventing attacks of megrim. The author now considers that the cause of such headache is uric acid. The reasons given for this opinion are founded on—(1) the clinical relationship of megrim and gout; (2) the remarkable way in which this headache is kept in check by a diet poor in nitrogen, or is cured by calomel or salicylic acid, iodide of potassium, or even colchicum; (3) the signs of gout that are found in the family history of patients who suffer from these headaches. The subjects of these headaches do not suffer from any of the acute symptoms of gout, but rather from what is termed by some "quiet gout." In many cases it has been noticed that these patients suffer from an irritable hyperæsthetic and easily tired eye, a condition recognized by Mr. Hutchinson, as evidence of a gouty tendency. Dr. Haig now treats megrim by means of small doses of salicylate of sodium, two or three grains being given every quarter of an hour, for three or four doses, as soon as the headache commences. By this means the headache goes away entirely, and shows no sign of return for a considerable period. As to diet, the author recommends abstinence from butcher's meat, cheese, beer, wine, etc. Many patients who leave off meat are free, but directly they recommence eating meat they have a return, and consequently more importance is attached to the regulation of the diet than to the use of drugs for the relief of the headache.—*London Medical Record*, April 15, 1886.

STRYCHNINE IN DIPSOMANIA.—In the *Vratch*, No. 10, 1886, p. 177, DR. U. M. POPOFF, of St. Petersburg, states that, guided by the works of Magnus Huss, Lutun, Dujardin-Beaumetz, and others, he employed nitrate of strychnine in two typical cases of dipsomania, and obtained strikingly successful therapeutic results. In one of the patients (a very gifted man of letters, aged forty), the alkaloid was administered under the skin, in the dose of $\frac{1}{80}$th of a grain at first (during a drinking bout) daily, then every other day, then twice a week, etc. The patient ceased to ask for drink after the second injection; within the next two days, various morbid phenomena (headache, weakness, discomfort, etc.) disappeared. On subsequent occasions, a few injections of $\frac{1}{60}$th or $\frac{1}{45}$th of a grain of strychnine rapidly removed craving, anxiety, irritability, agoraphobia, and other premonitory symptoms of a threatening dipsomaniac attack. The patient each time rapidly improved in all regards, and felt desire for work and society. In another patient, dipsomania disappeared under the internal administration of strychnine, the alkaloid being given for the first two weeks in doses of $\frac{1}{80}$th of a grain, and for another two weeks in that of $\frac{1}{60}$th, twice a day, in pills.—*British Medical Journal*, May 1, 1886.

THE MEDICAL NEWS.

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SATURDAY, MAY 29, 1886.

THE FATE OF INTESTINE SEPARATED FROM ITS MESENTERY.

ONE of the most important questions in connection with the now much discussed subject of operations on the intestines, is the determination of what may be expected to happen in cases in which a part of the bowel is separated from the mesentery. This question has been studied experimentally by a number of surgeons. Madelung, in 1881, reported to the Tenth Congress of German Surgeons a series of experiments on rabbits, which he thought showed that the bowel always became gangrenous when it was separated from the mesentery for an extent of from four to six inches. Rydygier, in the *Berliner klin. Wochenschrift*, 1881, recorded the results of similar experiments upon dogs as well as upon rabbits, with the conclusion that different species of animals withstand this operation in different degrees. Dogs he found to recover after separation of the mesentery to an extent which proved fatal to rabbits. He found, also, that the greater the extent of the separation the greater was the danger; and, what is of the most consequence, that the danger increases the nearer to the intestine the separation is effected. After this, Tansini, in 1885, reported the results of some experiments undertaken to ascertain whether different parts of the bowel differ in their power of recuperation after separation from the mesentery. He concluded that the small intestine withstands such interference decidedly better than does the large intestine.

Most recently ZESAS, in an interesting paper in the *Archiv für klinische Chirurgie*, Bd. xxxiii. Heft 2, has given a brief *résumé* of the recent studies in this direction, and an account of his own experiments and conclusions. This paper seems to show conclusively that the fate of the portion of intestine separated from its mesentery depends entirely upon the effect of such separation upon the circulation of the part. It also seems clear that separation from the mesentery close to the bowel deprives the latter of its blood supply, and is followed by gangrene, while separation at a distance not less than an inch, or an inch and a half, is comparatively harmless. The arrangement of the bloodvessels in the mesentery is such that if a little of this be left attached to the bowel, it will convey a good supply of blood to the latter by means of the many inosculating vessels which it contains.

The practical lessons which Zesas thinks are to be drawn from these facts may be stated as follows: In wounds causing a separation of the bowel from its mesentery close to the bowel, the part so separated must be removed in order to avoid the danger of subsequent perforating peritonitis and gangrene. If the separation has occurred at a distance of about an inch from the bowel, the separated portion need not be resected, but may be expected to recover. In case of a transverse wound of the bowel, accompanied by partial separation of the mesentery, the same principle holds true, and if the mesentery is detached close to the bowel, the corresponding part of the latter must be resected.

The importance of these conclusions, in connection with the whole subject of wounds of, and operations upon, the intestines, can scarcely be overestimated. It seems remarkable that it should have been nearly five years after the matter was first made the subject of investigation that what seems to be the natural explanation of the discrepancies of the earlier experiments should be clearly defined. Now that this has taken place, however, there is furnished to surgeons one more means of properly estimating the results of accidents or experiments which separate the bowel from its mesentery, and of treating such separations correctly.

A PLEA FOR MUSCLE-TRAINING.

A FEW years ago, MR. WILLIAM BLAIKIE asked the public to stand at Fulton Street and Broadway crossing and look at itself. Pointing to the throngs of men, old and young, who hurried past, he remarked that "scarcely one in ten is either erect or thoroughly well built." The desire of youth to possess a good figure, and the uncertainties of padding have induced many men to profit by Mr. Blaikie's book, from no higher motive than that they might be trained into "things of beauty;" but, in spite of this low aim, many a weak back has been straightened, many a narrow chest enlarged, and, doubtless, many lives will push on more bravely toward the three score years—and ten. We do not, however,

refer now to training as a means of great athletic development. We would rather direct the attention of the general profession to gymnastics as an aid to therapeutics.

Every physician is "called in" to see the children of tubercular parents, and can find nothing markedly wrong. If he takes the time and trouble to examine the naked chest, he sees a long, thin neck, narrow, drooping shoulders, flat or hollow chest, wing-like scapulæ, a skin so thin and delicate that everywhere the veins are mapped out clearly. Here and there a few ribbon-like bands are stretched in lieu of muscles. Breathing is mostly diaphragmatic, and causes but feeble expansion of the upper chest. The most marked appearance is the undeveloped state of the muscles.

What shall he do? The child is easily fatigued, and its appetite is poor. He, or she, is fond of study; reads constantly, and prefers indoor amusements; suffers from cold if the house is not heated to a high degree of temperature; and sits frequently by "the register." Indeed this individual—scarcely yet a patient—seldom enjoys a brisk walk in the open air, and, if persuaded to attempt one, is very apt "to take cold." There are certainly few symptoms, as yet, upon which to hang a diagnosis; but, as the doctor writes some lines in his case-book, he has a mental vision of this patient walking down a short, dim vista of the future, and lo! on the ground behind are strewn many bottles. Each has its label, and the physician reads, "cod-liver oil," "cod-liver oil and malt extract," "cod-liver oil and hypophosphites," "iodoform," "creasote," "mercuric bichloride." There are tonics innumerable, compressed-air inhalers, oxygen inhalers, bacterium termo inhalers. He looks not at the end, but, as he closes his book, thinks somewhat as follows: Pure air and sunshine are essential to life. Their enjoyment requires a certain amount of muscular effort upon the part of the individual. This patient is too weak to endure exertion, too weak to breathe properly, and, as a result, much lung tissue is unused, blood is poorly aërated, and all the attendant evils follow. Why not gradually train the muscles to a healthy development and see if the "general tone" does not improve in proportion as muscular strength increases?

The experiment is worth trying. Select a well-ventilated, sunny room—if the season be too cold for outdoor work—and treat the patient for a certain time each day with the lightest possible exercise. Avoid exhaustion, and increase the amount of exercise by very slow degrees. The heart is called upon to beat stronger and faster. Blood begins to circulate freely. The lungs must pump in more air, and their apices begin to expand. So the circle of life is started, and, with increased growth of voluntary comes an increase, also, of involuntary muscle. Tissue changes demand increase of food. The appetite improves, and the healthier nervous system finds healthier glands to carry on digestion and assimilation. With growing health and strength comes a natural desire for air and sunshine; nor do changes of temperature so readily cause congestions as in the former sluggish state. Whereas, before, a single game of tennis meant a week of sore limbs and aching back, the child now gains hearty pleasure from out-of-door amusements.

There is no space here in which to speak of the details of this treatment. That must be gained from books and papers on the subject. Blaikie's small book, "How to Get Strong," gives much practical information in a concise and satisfactory form. Other works may be in course of publication. We would call the attention of the general practitioner to this oft spoken of but too little practised system, and ask him to try such treatment upon the younger members of his "tubercular families." If judiciously carried out, it will delay the dreaded day of crepitant râles and night-sweats, or, perhaps, effectually prevent their coming.

OBSTACLES TO FECUNDATION.

SOME recent remarks by PAJOT upon the obstacles to fecundation in the human species contained in the *Journal d'Accouchements* of April 30, have considerable practical interest. He regards uterine catarrh as one of the most common causes of sterility, and states that in ten or twelve out of every twenty women who consult the physician on account of their being childless, this disorder is present; in some the flow is so excessive that the patients have to wear a napkin as if they had their monthly discharge, while in others there is simply a plug of mucus which closes the opening of the cervix, and is difficult to remove. If his explanation of sterility for so large a proportion of cases be correct, certainly the treatment of the affection is encouraging, for most of the cases of uterine catarrh are curable, and, therefore, we may expect to cure the sterility caused by it.

Conical cervix is next considered as a cause of sterility, but no special treatment is advised.

Uterine deviations are stated, by him, to be wrongly regarded as causes of sterility. Indeed, he does not regard such positional disorders of the uterus as anything more than a mere infirmity, an infirmity such as having only one eye, or being lame, and one which can be very well endured; he thinks that if women are not informed by their physician, or by a midwife, of the uterine displacement they do not, as a rule, suffer from it. Undoubtedly there are many cases both of anterior and of posterior dislocation of the uterus which do not cause suffering; suffering depends more upon the condition of the

displaced organ and of parts adjacent than upon the displacement. Nevertheless there are other patients who are marvellously and promptly relieved of local distress, or of reflex disorder, by restoring the uterus to its normal place.

But, on the other hand, the mechanical school of uterine pathologists have exaggerated the significance of uterine displacements as causes of suffering, and as interfering with the special functions of the uterus, menstruation and childbearing. Schultze, whose work upon uterine deviations is probably the best which has been written, very fully considered the relation which such deviations hold to dysmenorrhœa and sterility, and his conclusions certainly give little support to those practitioners who are perpetually seeking to remedy these conditions by mechanical means. We cannot yet believe that the place occupied by a woman's womb is a matter of entire indifference; nature assigned it a local habitation, and tethered it there, so that, though temporarily changing its position with the condition of the neighboring organs, with the position of the subject, with the amount of abdominal pressure, and with its own physiological state, it is ultimately brought back to its place.

THE METHOD OF ANTYLLUS FOR THE TREATMENT OF ANEURISM.

IN THE MEDICAL NEWS for May 1st, we called attention to the method of Antyllus, especially as applied to the treatment of popliteal aneurism, and urged the advisability of reconsidering the general judgment against this method, in view of the advances of modern surgical technique. Since then there has come to hand an interesting communication on the same subject in the *Edinburgh Medical Journal*, Feb. 1886, by Prof. Thomas Annandale, in which views similar to our own are supported by a sensible argument, and by an account of most favorable results obtained by Mr. Annandale in three cases. The opinions of this writer are so like those which we have already expressed that we need not repeat them all. But we may quote his conclusions, namely, that the method of Antyllus is to be preferred to ligation in Scarpa's triangle, in the treatment of popliteal aneurism: 1. In cases of large aneurisms filling up the space, and interfering by pressure with the venous and other circulation of the limb below, or causing serious nerve pressure. 2. In rapidly growing aneurisms, which have attained some size. 3. In ruptured and diffused aneurisms. 4. In aneurisms which have involved the knee-joint by pressure. 5. In aneurisms attacked with inflammation and suppuration. 6. In aneurisms which the ligature of the femoral artery and compression have failed to cure. 7. In arterio-venous and other aneurisms of traumatic origin. 8. In cases of general arterial disease, provided surgical interference is considered advisable or necessary.

The operation should, of course, be done with antiseptic precautions. The femoral artery should be compressed with a tourniquet. The sac should be laid open freely, any contained clots should be turned out, the arterial openings into and out of the sac should then be closed with ligatures, the sac thoroughly disinfected, the incision sewed up after the introduction of a drainage tube, and the wound dressed antiseptically. A very ingenious feature of the technique of this operation, as practised by Prof. Annandale, consists in his method of ligating the vessel, or vessels, communicating with the sac. This is done by introducing a bougie of suitable size into the openings from the side of the sac, in making a small incision through the wall of the sac on each side of the bougie, and in passing the aneurism needle through these round the vessel, the ligature being tightened as the bougie is carefully withdrawn. This detail we would recommend as a very material improvement upon the former manner of securing the vessel or vessels, and we feel little doubt that it will be found to contribute to the ease of performing the operation, to the convenience of the surgeon, and to the good of the patient.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Thirty-seventh Annual Meeting, held at St. Louis, May 4, 5, 6, and 7, 1886.

(Specially reported for THE MEDICAL NEWS.)

SECTION OF SURGERY AND ANATOMY.

TUESDAY, MAY 4.—FIRST DAY.

DR. WILLIAM M. MASTIN, of Mobile, Alabama, presented a paper on

VENOUS BLOOD TUMORS OF THE CRANIUM IN COMMUNICATION WITH THE INTRACRANIAL VENOUS CIRCULATION, ESPECIALLY THE SINUSES OF THE DURA MATER,

which contained the following propositions in brief:

1. Cranial venous blood tumors communicating with the dural circulation may be divided into congenital, spontaneous, and traumatic.

2. These classes, upon anatomical and pathological grounds, are divided into two species: the diffused, and the venous or vascular.

3. The venous type is the commoner, and of this form, varicose involvement of an emissory vein is the most frequent form, whilst the diffused is rare.

4. The diffused variety is especially characteristic of the spontaneous and traumatic groups. The venous or vascular type occurs most frequently in the congenital class, but is also met with in the spontaneous division.

5. The medium of communication with the intracranial circulation is, in the very large majority of cases, represented by the superior longitudinal sinuses.

6. In a causal relation some morbid action in the venous walls is notably prominent in the congenital class; atrophic or rarefying osteitis in the spontaneous group; direct injury in the traumatic division.

7. Palliative measures for retarding or arresting the progress of the growth, and certain form of compression, are useless applications.

8. General surgical interference is not called for, because the history, nature, and progress of the lesion are opposed to indiscriminate operation.

When deemed expedient, however, the following methods seem to be open for adoption.

1. If the growth be of the diffused type or that form consisting of a varix sinus, exposure and ligation of the pedicle, or, if necessary, deligation of the sinus in its course—the trephine being boldly employed to furnish space requisite for the necessary attending manifestation.

2. If the tumors be composed of varicose emissory vessels or diploic dilatations, either electropuncture or strangulation of the base is justifiable, by preference the former.

DR. MOSES GUNN, of Chicago, read a paper on

THE VALUE OF AN ATTEMPT AT ENUCLEATION IN A NEUROMA WHICH SEEMS TO DEMAND RESECTION OF THE NERVE.

A man thirty-six years of age was brought under treatment August 10, 1885. Growth began fourteen years ago, on inner side of right arm. It increased slowly till two years ago, when it had attained a size of one and one-fourth by one and three-fourths inches. Three years ago it became tender to touch. Pain on ulnar side of the hand extending to the little finger and ulnar side of the ring finger; at first nocturnal, it later became constant, and patient began to loose flesh. Nerve resection was advised and consented to.

During the initial steps of the operation he thought it advisable to change the method of procedure, determining to enucleate the mass. This was done, and the capsule was found to consist mainly of neoplastic tissue, involving and obscuring completely the widely separated nerve fibres. The collapsed bag or capsule was continuous above and below with the ulnar nerve. In this capsule the nerve fibres had been almost completely occluded by the neoplasm. The wound with proper treatment healed kindly, and patient was discharged September 1st, free from pain and impairment of function of parts to which the ulnar nerve is distributed. Microscopic examination disclosed the "distinctly fibrous" character of the mass. The speaker now proceeded to consider certain features of his report, drawing a parallel between cases of this character and spina bifida, so far as the adaptivity of nerve tissue to altered circumstances is concerned. The patient returned on November 30th with a reappearance of the disease, involving the same length of nerve, but tumor less in size. Resection was now determined upon and performed. The character of this new mass was almost identical with that first removed.

A complete resection having been made, a paralysis of the parts to which the ulnar nerve was distributed followed. He denuded the median nerve of its sheath and grafted the end of the ulnar upon the median. The wound was closed, and the hope of the possibility of getting new root entertained.

At that time he thought the procedure to be original, but he has since found that Despres, of Paris, had made an identical operation; grafting, however, the median upon the ulnar, and had obtained satisfactory results at the end of one or two months. In the speaker's case the wound healed kindly in eighteen days, without suppuration. At that time the patient had slight sensation in the ulnar side of the ring finger, and some power in the flexor carpi ulnaris. The patient was examined some time thereafter, showing a decided increase in the power of that muscle. There was marked increase in sensation of ulnar side of the ring finger, but lack of sensation in the third finger, which was cold. Early in May an examination was again made. The slightest touch could be detected on the ulnar side of the ring finger; the little finger was warmer, and decided improvement in the action of the flexor carpi ulnaris, as shown by the free mobility of the hand and arm. Hand can be adducted completely. This result ought certainly to encourage us in performing the compensatory operation of nerve stretching, and demonstrates that the function of the nerve, motor or sensory, depends, not upon peculiarities of the nerve itself, but upon the machinery within it. The speaker thought that this fact had been borne out conclusively by nerve suture. Nerve suture is an established procedure, both as a primary and secondary operation. Within a few weeks after its performance, sensation and muscular power return.

On the supposition that certain nerve fibres are intrinsically sensory or intrinsically motor, it was thought that we must so attach the ends that the sensory will touch the sensory, and the motor will touch the motor fibres. Since then it has been proven that sensation and motion do not depend upon the fibres, but upon the machinery which actuates them.

DR. B. A. WATSON, of Jersey City, then read a paper on

SARCOMATOUS TUMORS, WITH THE REPORT OF A CASE.

He reviewed the various names which have been employed by modern authors to designate these tumors. He described in detail their location, character, both macroscopic and microscopic, and dwelt on the importance, from both a diagnostic and prognostic standpoint, of making a differential diagnosis of sarcoma and carcinoma of the breast.

He reported a case of spindle-celled sarcoma, and presented the pathological specimen. Patient was a boy, twelve years of age. The tumor was discovered November, 1885; it was the size of a goose egg, and was situated posterior to the middle third of the left femur. The patient had never complained of pain or inconvenience. He died January 5, 1886, while in charge of the family physician. About December 1 a mottled appearance of the integument covering some parts of the tumor was noticed. Soon a change in color, turning from red to a brownish-black. The case was seen in consultation December 20, and he removed the tumor January 4, the growth having changed in form in the mean time, and increased in size; superficial veins were not much enlarged. The tumor was embedded in the deep connective tissue, its anterior surface approaching closely to the periosteum of the femur, the sciatic nerve passing through one-third of its lower

portion, grooving deeply the upper two-thirds of the posterior surface. Operation was speedily accomplished, and with little loss of blood. Patient reacted well, but within a few hours it was observed that the mottled appearance which had been previously mentioned was rapidly extending over the limb, and within thirty hours after operation gangrene reached the toes and abdomen. Patient died within thirty-four hours. Tumor was a fibro-sarcoma.

The chief interest attaches to the involvement of the sciatic nerve in the morbid growth, which unquestionably caused the vasomotor disturbance, and ultimately the gangrene following the operation.

DR. JOSEPH RANSOHOFF, of Cincinnati, reported

A CASE OF AORTIC ANEURISM TREATED BY THE INSERTION OF WIRE.

(See page 597.)

DR. HERRICK, of Cleveland, said that no clew had been given to the cause of the aneurism. He supposed it to be a false aneurism, involving the destruction of the inner coat.

The question arises, How far are we, as surgeons, to give our influence to empirical surgery? Is there a rational hope of relieving aneurismal tumors by this process? In imitating this operation we must certainly consider the cause, location of the tumor, and the possibility of benefiting the patient.

DR. RANSOHOFF remarked that he did not dilate upon the cause of the aneurism because he entertained a fear that the paper would prove too long. It was, no doubt, a traumatic aneurism, and on that very fact he had based great hopes for success. If depending upon atheromatous degeneration of the aorta, with a coexistence of that change in other arteries, then benefit cannot be expected from such interference. He was convinced that there is good, rational ground for repeating the operation. As a *dernier ressort* it is certainly advisable.

In Loreta's case, the size of the tumor had been reduced from that of the size of two or three fists to that of a walnut. The patient had been discharged cured, but a severe exertion subsequently caused the main trunk to give way at the neck of the sac.

The operation should be adopted only as a last resort, when all other measures have been faithfully tried.

DR. EDMUND ANDREWS, of Chicago, read a paper on

THE INCISION, DIGITAL EXPLORATION, AND DRAINAGE OF LUMBAR ABSCESSES.

He took the ground that lumbar abscesses are not more dangerous than others, rarely causing death when thoroughly explored and completely disinfected.

Some surgeons still consider opening and even aspiration as extremely dangerous. He did not discuss this antiquated opinion. No danger attends free opening and thorough disinfection, and the patient, in many instances, makes a good recovery. Opening becomes necessary after repeated aspiration has failed. Thorough exploration with the finger is a prime necessity. The original sac is inside the body but behind the peritoneum, and communicates by a small orifice with another broad sac which expands beneath the integument. First open the outer sac widely, and examine the floor of the cavity with the finger and, if necessary, with a long probe until the opening into the interior sac is found. Passing inward, the spinal column can be examined for necrosed portions or excavations.

If the abscess points in the angle between the crest of the ilium and the spinal column, a wide opening should be made into the external sac and the narrow opening into the anus enlarged. If it runs along the internal iliac fossa toward Poupart's ligament, another free opening should be made at that point. At other times it runs behind the kidneys and sometimes sends pouches in three or four directions. In making the openings we are aided by the long brittania metal sound, which should be also used to trace the channel into the lumbar region. If this be accomplished, we should then cut down upon the sound. Every opening must be tubed and the cavities kept well disinfected. The upper tubes taking away the pus at its source, the lower cavities will heal without difficulty, giving us a small and simple abscess to deal with. He then reported several cases in illustration of the subject, and presented the following conclusions:

1. Some lumbar abscesses recover by a series of aspirations with antiseptic measures.

2. If aspiration fails, free incision, exploration, and complete disinfection should be carried out at once.

3. Residual abscesses should be treated in the same way.

4. Sudden evacuation of a large cavity filled with pus, if immediately disinfected and kept so, has none of the dangers supposed by old authors to beset the case.

DR. BYRD, of Quincy, Ill., had observed and treated four cases similar to that reported. The probe employed may be twelve to eighteen inches in length. For the purpose of washing out the cavity he had found no better disinfectant than the peroxide of hydrogen. By washing out the cavity we get also the benefit of hyperdistention, advocated and taught by Mr. Callender, of London, and all parts are thoroughly touched by the antiseptic used.

DR. FENGER, of Chicago, remarked that lumbar abscess appears only as a symptom, and we must search for the disease deeper down. There is a great difference between that depending upon tuberculosis of the spine or the septic abscess of the kidney, intestine, or glands, or of the connective tissue alone.

According to his experience, there can be no choice as to time of incision in case of septic abscess. In spite of all antiseptic measures some of these abscesses terminate just as they did before the precautionary measures were employed. In psoas abscess the opening should be made in the lumbar region.

DR. LEWIS, of Kansas City, supposed that opinions would not vary much as to the treatment after the diagnosis of the disease, but the difficulty is in its early recognition. He desired to obtain Dr. Andrew's opinion as to whether there was any positive symptom which would suggest surgical interference in the early stages of the trouble. Is it imperative to resort to aspiration?

DR. HAMILTON, of Columbus, Ohio, stated that in the vast majority of cases it is not necessary to resort to the aspirator for diagnosis.

DR. RANSOHOFF remarked that the teachings of thirty or forty years ago differ widely from those of the present time. To-day we are taught first to ascertain the cause

of the abscess, for by drainage, in many cases, we may hasten the fatal issue. He wished to illustrate this by referring to the case of a boy, seven or eight years of age, who had an attack of supposed perityphlitis. Aspiration was resorted to, without benefit. He came to the conclusion that free incision was the only hope for saving the life of the patient. Two incisions were made, and exploration disclosed the fact that the condition depended upon tuberculosis of the ilium. The patient was losing from one to one and a half pints of pus three times a week. The wound was kept thoroughly aseptic, and there was no elevation of temperature, but the patient was losing strength. The speaker agreed with Dr. Fenger that lumbar abscess is only a symptom, and an opening will no more cure it than it will disease of a joint.

DR. GEIGER, of St. Joe, stated that operators have thus far failed to discriminate between abscess depending upon disease of the vertebra and simple psoas abscess. In nearly all cases of Pott's disease we are unable to detect the necrosed bones, for the disease usually affects the bodies and not the processes of the vertebra. In nearly all cases of lumbar abscess in children there is more or less disease of the vertebra. In adults, the cause, if not traumatic, is usually tubercular.

DR. MILLER, of Indiana, reported a case illustrating the difficulty of diagnosis. A tumor was situated on the right side of the eighth dorsal vertebra, and a definite diagnosis could not be arrived it until the trocar was inserted and the pus evacuated (for it proved to be an abscess). Six or eight months after, marked curvature of the spine resulted.

DR. ANDREWS remarked that when but little pus is present, we have no means of knowing precisely the condition of the parts; but when there is an extensive rise of temperature, next an enlargement, chilliness, and fever, with the safe use of the aspirator the true condition can be detected. Unless such physical signs are manifested, it is not proper to cut. He did not advocate incision as the only proper method of treatment; but by it you can learn the internal topography of the cavity and the condition of the bone, so that proper applications can be made. The bodies of the vertebra can all be felt distinctly.

WEDNESDAY, MAY 5.—SECOND DAY.

DR. DONALD MACLEAN, of Ann Arbor, read a paper on

AMPUTATION AT THE HIP-JOINT FOR MORBUS COXARIUS.

The point which he wished to make was that cases of hip-joint disease, which do not admit of relief by any other means, may still be saved by the extreme measure of amputation at the hip-joint. This point he sustained by the history of a case.

THE NOMINATION OF OFFICERS

for the ensuing year resulted as follows:

Chairman.—Dr. H. H. Mudd, of St. Louis.

Secretary.—Dr. John B. Roberts, of Philadelphia.

DR. J. MCF. GASTON, of Atlanta, Ga., then read a paper on the

SURGICAL RELATIONS OF THE ILEOCÆCAL REGION.

A thorough investigation of the morbid conditions of the ileocæcal region, he stated, had led him to the following conclusions:

1. That certain modifications are corrected spontaneously, or by the process of evolution under treatment.

2. In the early stage of ileocæcal disorders, medicinal or mechanical measures are advantageous.

3. That extraperitoneal punctures and incision are beneficial in cæcal inflammation, with or without fecal abscess.

4. Disorders involving the peritoneum, when not promptly relieved by general treatment, warrant exploratory opening of the abdomen.

5. Impediment of the intestinal canal or morbid accumulations in the abdominal cavity, accompanied by meteorism, call for immediate surgical interference, with laparotomy.

6. In cases of simple stenosis or malignant growths involving the ileocæcal connections, ileocolotomy is indicated.

7. Gangrenous portions of the intestinal canal necessitate resection, and either direct restoration by suturing the ends or the formation temporarily of an artificial anus.

8. Operative measures in ileocæcal derangements should not be delayed until the physical powers have become prostrated, but resorted to while they are in a capacity for reaction of the vital forces.

DR. HENRY H. SMITH, of Philadelphia, opened a discussion of the question,

WHAT IS THE PROPER TREATMENT OF PENETRATING WOUNDS OF THE ABDOMEN?

Among the marked changes of surgical doctrine noted in the present century, none is more striking than the opinions held by many in regard to the development and results of peritonitis after injuries that involve that membrane. He reviewed the history of his subject, and concluded by saying that, admitting that this operation may be correct in certain cases, it is important to remember that when it is performed the incision should be on the line of the linea alba, and free enough to explore the injured region; that a clear and decided statement should be made by the surgeon to the patients or his friends of the very serious nature of the wound, and uncertainty of the result; under an anæsthetic; with the caution and technique pursued in laparotomy for the removal of tumors, and with the knowledge that in suits for alleged malpractice the lawyer is sure to charge death on the surgeon rather than on the original wound.

DR. WATSON, of Jersey City, said that all will admit that success depends more especially upon the case than upon the operation itself. During his service in the late war, he thought he could safely say that not a single recovery occurred in cases in which a penetrating wound of the abdomen was produced by a Minie-ball or other missile. If the abdominal wall be penetrated, the wound should be examined immediately. It is frequently impossible to determine whether the intestines have been opened or not. If opened, but one course can be pursued. Unless operative interference be adopted the patient will certainly die, and a large proportion of cases, however treated, will die. In cases of penetrating wounds, but little danger is added, by the operation, to that which already exists.

Great danger is to be apprehended from septic infection. This it is our duty to prevent by adhering strictly to the commands of aseptic surgery.

DR. GREGORY, of St. Louis, did not think that the question of laparotomy in penetrating wounds of the abdomen was definitely settled. He had seen a number of such cases recover without special surgical interference. The question pivots upon the symptoms manifested. If they are not urgent, there is better promise of success without than with operation. It is better to wait until dangerous symptoms present themselves. Circumstances that warrant an exploratory incision are extremely rare. He would not think of making an exploratory incision in a case of simple intestinal obstruction.

DR. J. B. HAMILTON, of the U. S. Marine-Hospital Service, related the history of two cases. The first was that of a young woman, with a wound of the abdomen produced by a pistol-ball; temperature not elevated, and no apparent reason for surgical interference. A consultation of hospital surgeons was called, and it was decided that there was no immediate indication for operation, and that the case should be left to nature. The temperature, on subsequent examination, was found to be little less than normal, certainly an unfavorable symptom. She died on the fifth day. Autopsy disclosed five wounds of intestine, with some extravasation.

In a second case, with the consent of the patient, he opened the abdomen two and a half hours after the infliction of the injury. Eleven wounds were found in the small intestine and two in the colon. The patient recovered.

We cannot expect as good results from gunshot wounds of the abdomen as from ovariotomy, since there cannot be that perfect cleanliness which is possible in ovariotomy. It has been claimed that traumatic inflammation is limited. In the woman who died, extensive inflammation of the entire intestinal tract was present. If the operation be performed immediately, the presence of inflammation is a satisfactory aid in locating the seat of injury. By the line of congestion the location can be well determined. The bowel above and below the site will appear white and clean, and if the operation be deferred three or four days, an important and essential guide will be lost. Unless performed late, the operation will prove a success.

DR. KINLOCH, of Charleston, remarked that he was an advocate of active interference in gunshot wounds. He had been the first to open the abdomen immediately after a gunshot wound, and he was the first to free the bowel from the adhesion formed at the site of an artificial anus, reunite the ends of the bowel and rescue the patient from the jaws of death. But he had met with a case in which he discovered seven or eight wounds of the intestine. There was no fecal effusion. The operation was performed by candle-light, and under the belief that it was called for immediately. Diligent search failed to discover further openings. The patient died, and two openings were found, with signs of extension of traumatic inflammation. He would like to believe the doctrine that the inflammation was limited. It practically extends enough to kill the patient.

THURSDAY, MAY 6.—THIRD DAY.

DR. R. HARVEY REED, of Mansfeld, O., read a paper on

SOME OF THE COMPLICATIONS OF STRANGULATED HERNIA,

in which he confined himself to a report of some of the complications which may arise, and illustrated them by a few cases.

DR. CHARLES A. TODD, of St. Louis, then presented a paper entitled

HOW THE ILIAC ARTERIES ACT AS VALVES UPON THE VENOUS FLOW INTO THE INFERIOR VENA CAVA.

The common iliac veins at one point lie between the right common iliac artery and the bone, the vessels being bound together by the firm pelvic fascia. This is no indifferent arrangement, but accomplishes a most important end, viz., to supply the place of a valve in the great abdominal vein and just where such a support is most needed, at the bottom of the column of blood, and at the mouths of its primary branches, the common iliacs.

DR. CHR. FENGER, of Chicago, then read a paper entitled

OSTEOPLASTIC RESECTION OF THE FOOT; EXCISION OF THE HEEL AS DEVISED BY WLADIMIROFF AND MIKULICZ.

DR. MACLEAN, of Michigan, remarked that the question arises whether the operation advocated in the paper is a safe, conservative surgical procedure. He was inclined to doubt it if it be compared with Pirogoff's operation. It is difficult, uncertain, and unsatisfactory. In the osteoplastic operation there are two dangers, the return of the disease, and obstinate sinuses. He had performed Syme's operation upward of thirty times and obtained good results in all but one case, in which the disease was of syphilitic origin. By an amputation we get rid of the trouble in a short time, and are certain of the result.

DR. J. M. BARTON, of Philadelphia, then made some remarks on

VERTICAL EXTENSION IN FRACTURES OF THE FEMUR IN CHILDREN.

The treatment of fracture of the femur in children has always been attended with great difficulty. The fragments are so short that they are not readily grasped by the dressings, and the thigh is usually so comparatively large and soft, that the extremities of the fragments are, as a rule, with difficulty maintained in position. None but the most firm and secure dressings will be maintained, as all the efforts of the sufferer are directed to their removal. The dressings are soon soiled by the discharges and the frequent removals interfere with the process of repair. The displacement of the dressings by the patient causing injurious pressure, and the uncertainty which the surgeon feels regarding the condition of the limb, necessitate frequent examinations, especially when the child gives evidence of discomfort. The disappointment occasioned by these dressings, is perhaps best shown by the fact that St. Bartholomew's Hospital reports for 1867 show that Messrs. Paget and Collender treated many cases of fracture of the thigh in children without splints, all apparatus being dispensed with, the child being placed on a hard bed with the broken limb, after it is set, bent at the hip and knee and laid on its outer side.

The plaster dressing is valuable in these fractures, and as usually applied with short splints around the femur, and a long splint reaching from the axilla to below the foot, thoroughly covered with plaster, bandaged and either varnished or covered with oiled silk, to protect it from the discharges, has often given admirable results.

A method of treating fractures of the femur in children by vertical extension, is described and claimed as original by Bryant. But few surgeons in this country have had any experience with this method, and the speaker, therefore, felt warranted in reporting five cases treated by this method. Bryant places the limbs at a right angle with the pelvis, fixes them by a light splint and then they are hoisted upward and fastened to a hook or bar above the bed. This has been slightly modified, substituting counterpoise weights for the simple fastenings.

Among the cases he reported that of a small child, in which he tried the plaster dressing which had in previous cases served his purpose ,but in a few days he was forced to remove it and substitute this method. The usual adhesive plaster carried well above the knee, the same as is used in making extension in adults in the ordinary method of treatment, was applied to each limb, to the sound as well as to the injured one. After the dressing had become firm, a light wooden frame, extending across the bed, and about four feet above it, was placed in position. It consisted simply of two uprights, one on each side of the bed, and a light bar connecting them. In the lower edge of the transverse bar connecting them four iron pulley wheels had been fastened, two about the middle a few inches apart, and one at each end close to the uprights. The limbs of the child were elevated at a right angle with the rest of the body, the cord from one of the adhesive plasters on one of the limbs was carried through one of the middle pulleys, and the other was carried in a similar manner through the other side. The heaviest weights were attached to the injured limb, and only enough to the sound limb to keep it fully elevated. The fracture came immediately into good position, and thirty-five days afterward she was discharged entirely cured, without either shortening or deformity of the limb.

DR. GRAHAM, of Chicago, was convinced of the efficacy of this method of treatment. He had employed a similar method for two or three years, but a simpler apparatus. A plain pulley in the ceiling over the bed is all that is necessary, and the entire apparatus can be placed in position within fifteen minutes. His experience has been most satisfactory.

DR. LINK, of Indiana, described a method which had proven very successful in his hands. He flexes the leg upon the thigh, rotates this outward, whereby all the muscles become much relaxed, and, by bandaging, all necessary fixation is obtained. The spasm is relieved and the bone drops into its natural position. By this plan, he had not a single deformity to report.

DR. WM. T. BELFIELD, of Chicago, read a paper on

DIGITAL EXPLORATION OF THE BLADDER, WITH A REPORT OF TEN CASES, INCLUDING FIVE VESICAL TUMORS AND FIVE CASES OF PROSTATOTOMY.

By an incision from the perinenm into the membranous portion of the urethra the exploring finger can be introduced at a point corresponding to the location of the internal meatus, and the bladder is thereby rendered accessible. This method of exploring the bladder in the male by means of perineal urethrotomy was brought prominently before the profession as a systematic means of diagnosis some three years ago by Sir Henry Thompson and Mr. Whitehead, and often affords the only means for the recognition and relief of obscure vesical disease. By it the surgeon is also able to differentiate between disorders of the kidney and the bladder when all other diagnostic means, even including the microscope, have failed, and he can often relieve a painful condition that has long been blindly and unsuccessfully treated under the comfortable and comprehensive designation of "cystitis."

During the past eighteen months he had made a digital exploration of the bladder by perineal urethrotomy in nineteen adult males. In seven cases the exploration was incidental to the performance of membranous urethrotomy for stricture, and afforded no particular information, in the remaining twelve cases the operation was made as a means either of diagnosis or of treatment, or of both.

The operation should never be performed until the bladder has been accustomed to complete evacuation by catheter or otherwise. If, in consequence of a tight stricture or prostatic obstruction, the bladder is much hypertrophied, membranous urethrotomy is dangerous, not from a probability of urinary extravasation, but simply because a cystopyelitis of more or less gravity usually follows the sudden removal of the accustomed high pressure in the bladder. Therefore, before the bladder is explored in a case of tight stricture, the organ should be gradually accustomed, in the course of weeks, to complete evacuation, the stricture should be enlarged, or the prostatic obstruction should be overcome by the habitual use of the catheter until all residual water is gradually withdrawn.

DR. ROBERT NEWMAN, of New York, then read a paper on the

GALVANOCAUTERY IN DISEASES OF THE PROSTATE, BLADDER, AND URETHRA.

He exhibited and demonstrated "The Galvanocautery Sound," for the radical cure of an enlarged prostate gland. His instrument consists of a smooth metal catheter with a fenestrum at the end of the curve, in which is placed a platinum wire. In the interior is the mechanism for heating, which is done by a galvanocautery battery. This instrument is introduced into the urethra, so that the fenestrum is held against the enlarged prostate, which is then cauterized in an instant by the galvanocautery. The instrument is light, and in size equal to a No. 18 sound, French scale. The instrument and the battery must be regulated to a fixed potential for the work to be done, and so adjusted that failure is impossible. These applications are repeated at short intervals, until a cure is effected by shrinkage of the tissues. The galvanocautery must be applied lightly, the duration of the heat lasting only an instant, at most not longer than a few seconds. The advantages of this method are, the operation causes no pain or hemorrhage, and patients are not detained from their business on account of the operation itself.

Adjourned.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, May 10, 1886.

THE PRESIDENT, CHARLES MCBURNEY, M.D., IN THE CHAIR.

DR. GERSTER read a paper

ON THE ADVANTAGES OF SUPRAPUBIC LITHOTOMY, WITH A CASE.

Since modern surgery has more and more succeeded in extending the application of antiseptic principles to the oral cavity, rectum, and the bladder, epicystotomy has been reclaimed from undeserved neglect. Germany and Austro-Hungary have especially contributed a respectable series of successful cases, demonstrating that many of the chief objections to this procedure have, by dint of improvements of the method, lost most of their weight. It is interesting to note that the last and most weighty opponent of this method was Sir Henry Thompson, a countryman of the brothers Dr. James Douglas and Mr. John Douglas, who, in 1717 and 1718, first demonstrated on the cadaver and successfully performed on the living subject the operation, as the venerable Cheselden informs us in his excellent little treatise *On the High Operation for the Stone*, published in 1723, at London.

Viewing the more recent literature of the subject without prejudice, it must be acknowledged that the range of the indications for the performance of epicystotomy had been until recently unnecessarily narrow. The main objections raised were two: first, the difficulty of its performance, especially in adult subjects; which refers principally to the danger of injuring the peritoneum. Secondly, the difficult after-treatment, involving the knotty question of suturing the bladder or choosing the open treatment instead; and, finally, the avoidance of urine-infiltration and its consequences.

Garson and Peterson have shown that distention of the rectal pouch by a suitable soft rubber bag filled with water when in position, will raise a full bladder of an adult subject sufficiently above the level of the symphysis pubis, to permit a free incision of six centimetres in length into the organ, without the least risk of cutting the peritoneum. Willie Meyer, lately of Bonn, at present of this city, reported in 1884, in *Langenbeck's Archiv* forty-one cases of suture of the bladder, sixteen of which were successful; in seventeen cases suppuration followed, but ended in cure. Eight patients died in consequence of the operation; one of erysipelas, and seven of septicæmia. The results reported since by Bergmann, Antal, and others have much improved, which may be undoubtedly ascribed to a more careful selection, all cases accompanied by septic processes being rejected and treated by the open method. The open method, however, as advocated and practised by Dr. Trendelenburg offers the greatest safety as regards avoidance of septicæmia due to urine-infiltration, phlegmon, or erysipelas. An essential part of this is the semi-prone posture of the patient to be observed after the operation. In this position not a drop of urine can be retained in the bladder, but it must escape through a soft drainage tube suitably attached.

The enormous advantages of epicystotomy in cases where an exact exploration of the bladder by touch and sight becomes necessary, need not be dwelt upon. The exact diagnosis of the more intimate relations of one or more encysted stones and their removal; the staunching of rebellious cystic hemorrhages by ligature or the cautery: the diagnosis and safe and complete removal of cystic tumors will be rational and safe processes even in cases of a very much enlarged prostate, instead of being haphazard, dangerous, and often incomplete and unsatisfactory endeavors, as they frequently must be, if the perineal section be exclusively employed.

Not wishing to take up too much time, I refer for a closer study of the merits of the question to the lucid and very interesting paper of Dr. Meyer, alluded to in the *Arch. f. klin. Chir.*, vol. 31, p. 494, which contains abundant casuistic material to bear out every statement made therein in favor of the operation.

I deem it proper to bring the subjoined case to your notice, although it terminated fatally, first on account of its inherent pathological interest, and chiefly because it was marked by perfect safety and ease in exposing and incising the bladder with hardly any loss of blood, and the facility with which the stones could be grasped and extracted under the guidance of the eye from bladder and diverticulum.

The history is as follows: Martin Gyr, a Swiss laborer, fifty years of age, was admitted to the German Hospital on April 8th. He stated that he had been suffering from difficulty of micturition since more than ten years, having had no treatment whatever, until within a few days of his admission, when a cystic stone was detected by Dr. Meyer, at the German Dispensary. The usual symptoms were observed of the most pronounced character. The patient could not retain more than an ounce of water, and had to urinate every fifteen minutes by day and night. Examination of the alkaline urine gave evidence of intense cystic catarrh and of pyelo-nephritis, casts and pelvic epithelia being found. The filtered urine contained a considerable amount of albumen.

The patient presented an abject picture of emaciation, pain, and suffering, and was delighted at the possibility of getting relief by an operation. Slight elevations of temperature were observed every evening. Physical examination demonstrated a normal condition of the internal organs excepting the kidneys and bladder; anæmia with rapid and rather feeble pulse. The stone-searcher established the presence of stone in the bladder; but fearing a possible reaction, no extended examination and measuring of the stone were insisted upon. It was clear, however, that the much-contracted bladder contained either a single large, or a number of smaller stones. By introducing the finger into the rectum, a rather massive protrusion of a hard body toward that organ could be felt. The patient was made comfortable by the free administration of opiates, and all endeavors were employed to improve his general condition, by abundant stimulation and food.

In weighing the admissibility of an operation, the wretched state of the patient made it clear that any operative interference would be fraught with unusual danger from shock; yet in view of the fact that longer delay was inadmissible and that, unrelieved, the patient would have to succumb soon and certainly, it was decided proper to offer him a chance of recovery, however

slender, by the operation. Regarding the selection of a method, it had to be borne in mind that a prolonged anæsthesia, such as litholapaxy would necessitate, was inadmissible in this case. A grave objection to any one of the perineal sections was that the unavoidable hemorrhage, the amount of which varies considerably in different cases, can never be estimated beforehand, and is occasionally serious. The high operation was naturally thought of: First, because it would permit bloodless access to the bladder; second, because it would permit rapid completion of the extraction of the stone or stones; and finally, because it would secure perfect drainage. The question, which anæsthetic should be employed, was decided in favor of chloroform, on account of the danger that the administration of ether would entail in the presence of the renal condition.

On April 12, the patient having been brought under the influence of chloroform, a soft rubber bag was introduced into the rectum, and was distended with about 500 c.c. of tepid water. After this the bladder was filled with 200 c.c. of tepid borosalicylic solution. A longitudinal incision was carried through the integument and linea alba down upon the transversalis fascia with minute loss of blood, commencing at about three inches from, and extending downward to a little beyond the symphysis. The fascia transversalis having been severed, the peritoneum became exposed to view, and doubts were entertained about the possibility of now incising the bladder. Thereupon it was decided to inject 100 c.c. more fluid into the bladder. While this was done, it could be distinctly seen, how the bladder rose up from behind the symphysis, pushing before it the reflected fold of the peritoneum marked by a clearly defined transverse depression. An incision of an inch and a half being made into the bladder, its contents escaped. The edges of the incision were drawn apart, the remnant of the borosalicylic solution was mopped out, and thereupon the presence of more than one stone could be seen and felt. First, an ovoid, smooth, hard stone was grasped and extracted. After this a second rather rough, very hard stone became visible, which was not freely movable as the former, but seemed to be attached somewhere on its posterior face, and yielded only after being forcibly rotated. On inspection, the freshly broken off surface of a stalactitic projection was seen on the posterior side, indicating that a continuation had existed, projecting either into a ureter, or into a diverticulum. This second stone showed two facets: a large one corresponding to the round, smooth stone, first extracted, and another smaller one of apparently recent formation. On introducing the finger into the bladder, a conical stone was felt to project from a diverticulum situated posteriorly and to the left side, the site of this corresponding to the resistant tumor felt in the rectum. The index finger was cautiously inserted into the orifice of this diverticulum, which was felt to yield to this gentle dilatation. A forceps grasped and extracted the stone easily from its bed. It was clear that another stone remained to be extracted; but the patient having been under the influence of the anæsthetic for twenty minutes and his pulse becoming thready, it was deemed imprudent to continue further search. As it was intended to leave the incision open, the extraction of this remaining stone, it was thought, could be easily accomplished at the first suitable occasion. A number of camphorated ether injections were administered hypodermically and the patient was put to bed. Previous to this a T-shaped drainage tube, prepared according to the directions given by Trendelenberg, was inserted into the bladder, and another drainage tube was placed into the bottom of the diverticulum. The position occupied by the patient in bed was semiprone, his left hip resting upon a ring-shaped air cushion, his knees being drawn up, and his back being supported by a number of pillows held up by the back of a chair. The skin of the belly was freely anointed with vaseline and a pus-basin was placed underneath the projecting ends of the drainage tubes from which urine was seen to escape in driblets. Hot bottles and stimulants were used, but in spite of the insignificant loss of blood, and of the small quantity (ten grammes) of chloroform used, the shock of the operation proved to be too great. He rallied three or four times, to relapse into a collapsed condition, and died five hours after having been placed in bed.

This not wholly unexpected result of the operation proves that the resistance of the patient had been lowered to such an extent, that even this mild and bloodless procedure led to a fatal termination, and that any other operation, such as lithotrity or a perineal section, would have caused death more speedily. Further, it seems to be clear, that in this case an extraction of the stones from the diverticula by the lower operation of lithotrity, could not have been accomplished.

On post-mortem examination the fourth stone contained in a smaller diverticulum was removed. It was seen then that its detection and extraction could have been easily accomplished. The aggregate weight of the four stones was fifty-one grammes, the heaviest being the round smooth stone extracted from the bladder itself, weighing twenty-two and a half grammes; its longitudinal diameter being three and a half centimetres, its transverse diameter two and a half centimetres. The next in weight (fifteen grammes), was a pear-shaped stone removed from the larger diverticulum, its length being four and half centimetres, its thickness three centimetres. Its apex, which had projected into the bladder, showed an oblique facet corresponding to the smaller facet of the other stone found in the cavity of the bladder. The third stone just alluded to as found in the bladder, was irregularly shaped, having two facets and a stalactitic fracture—surface about half a centimetre in diameter. This weighed ten grammes, and was apparently one with the fourth, the smallest stone found in the second diverticulum, which weighed three and a half grammes, was pear-shaped, and was two and a half centimetres long and one and three-quarters centimetres wide. All the stones show, where they have not been worn smooth, a crystalline surface of whitish color. They consist of alternate layers of carbonate and of oxalate of lime, the latter substance preponderating. In studying the positions and relations of these stones it seems almost certain that there were originally only two present; the largest smooth one being the oldest. The remaining stones must have been originally one body, the main part of which was situated in the bladder, and gradually sent out two pear-shaped projections, each of which was found to be lodged in a diverticulum of corresponding size. The larger one, the presence of which could be felt before the operation by touch through the rectum, must have

been broken off some time previous to the operation. The fractured surfaces, preserving apposition, became worn into facets. The peristaltic motion at defecation may have played an important part in the production of this phenomenon. The post-mortem examination revealed a normal urethra, enormous concentric hypertrophy of the bladder, the two diverticula above described within its posterior wall, and very much distended ureters. The latter resembled infantile small intestines, their width varying between one and three centimetres, the thickness of their walls also varying to a considerable extent. The greatest amount of distention was noticed in that part of the ureters lying next to the bladder. Both kidneys were somewhat enlarged, their capsule could be stripped off very easily, color pale, calices and pelvis much thickened and dilated, the kidney tissue in an advanced state of fatty degeneration.

DR. WEIR thought there was some risk in dilatation of the bladder. Three cases have been reported by Pousson in which the bladder was dilated after the rectum had been distended by the injection of 400 grammes of water, 200 grammes were then introduced into the bladder, and the result was a rupture of that viscus. In two of these cases the operation was proceeded with, the prevesical tissues being found infiltrated with fluid, but it did not interfere with the ultimate success of the operation. In the third case it was found that the bladder instead of rising, subsided after a certain amount of fluid had been introduced; an additional 200 grammes were then thrown in without any distention of the bladder, whereupon the operation was abandoned, but the patient died within forty-eight hours. In the first operation the rupture was not found; but in the second case it was. Now, in this operation, should he undertake it, as he expected to do to-morrow, the question is, whether after dilating the rectum he should throw less than 200 grammes into the bladder. He thought as soon as the bladder rises above the symphysis pubis we should stop; he should like to know how much the bladder resisted.

DR. GERSTER said that is a very important question. The rectal distention suffices to keep the bladder high up so that we can see the opening of the ureters and urethra, so that if hemorrhage occurs we can safely and intelligently grasp the vessel and ligate it, or stop the hemorrhage by some good surgical procedure. He believed that this method is especially valuable in these complicated cases.

DR. WEIR said that Sir Henry Thompson has advocated and practised in eight cases this open incision as being all sufficient for large calculi and tumors, even without the aid of drainage tubes.

DR. GERSTER was glad to hear of this remark of Sir Henry Thompson, as but a year ago he said that the perineal section was all sufficient.

DR. MARKOE inquired what was the covering of the stones after they had lodged in the diverticulum. Was it muscular?

DR. GERSTER replied that there was a muscular tissue outside and also a muscular ring surrounding the orifice of the recess, which is capable of dilatation.

DR. WYETH was consulted in one case in which an ovariotomy was being performed, and suggested that the incision then being made was very near the summit of the bladder, when suddenly there was an escape of urine into the peritoneal cavity; there had been no distention of the rectum, but he could see the floor of the bladder, and he passed his finger into it and had there been any stone there he could have detected it with facility. After the ovariotomy was completed the edges of the bladder were brought up and stitched to the wound, and they healed without further trouble.

DR. ABBE remarked that, as to Dr. Weir's idea of injecting less than 200 grammes into the bladder, there is danger of getting too small a space for operation between the symphysis and reflected peritoneum. And it has been found that after passing a certain point, say 200 grammes, in the bladder distention, an additional hundred gives proportionately much more increase of suprapubic space than did the previous hundred.

DR. J. C. HUTCHISON asked Dr. Gerster whether, in his studies of the literature of this subject, he had found cases of urinary fistula following the high operation for stone, where the wound had not closed entirely?

DR. GERSTER replied that there are cases on record in which that result has been noted. He remembered one case in which the fistula was caused by extensive sloughing of the bladder wall and the abdominal covering; there was afterward a large and extensive cicatrix, but the fistula remained.

DR. HUTCHISON had a case under observation now, a patient, sixty years of age, who had cystitis caused by an enlarged prostate. He was taught by his surgeon to introduce a catheter, which he did several times a day. On one occasion the instrument broke off in the bladder, and he entered a New York Hospital to have it removed. Epicystotomy was done, and the fragment of catheter removed, leaving a fistulous opening at the upper part of the wound, through which all the urine had been discharged since the operation. Eight or ten months ago, when he came under Dr. Hutchison's observation, he was suffering greatly from spasm of the bladder. He explored the prostatic urethra through an opening made in the perineum which allowed him to divide a prostatic barrier which extended across the base of the gland. A large drainage tube was introduced, the upper fistula gradually closed, and the spasm subsided.

The case is still under treatment, and Dr. Hutchison mentioned it now merely to call attention to the fact that urinary fistula is one of the accidents that may follow the suprapubic incision into the bladder.

DR. WEIR presented a cyst which he had recently removed from the thigh of a young woman, twenty-four years of age, who had suffered from it for some ten years. She had complained of pain in the femoral region, and had worn a truss for the past ten years, and also reported that the mass had twice been strangulated. The tumor did not diminish in size at night, nor did it increase in size suddenly on rising, although it had augmented in size of late years. On examination he found below Poupart's ligament a mass some five or six inches in diameter, which was dull on percussion, and without impulse on coughing. On grasping it with the hand it did not give that peculiar irregular sensation which an omental mass would give, and yet on pressure the bulging was just as if coils of intestine were underneath. It was uncertain what it was. The possibility was considered that it might be a fatty tumor; but when it was cut down upon, it looked more and more

like coils of intestine, until the sac was arrived at, when, through a minute incision, clear fluid escaped; this opening was closed to preserve the cyst entire if possible, and it was finally dissected out entire, except at its neck, which ran up to and through the femoral ring. On seizing this neck and applying a ligature, and then dividing it, the solution was found of the case: It was a femoral hernial sac which had been so shut off by the persistent use of a snug-fitting truss, that the sac had undergone a conversion into a cyst. It contained some five or six ounces of fluid, some of which was yet in the cyst, as could be observed. Such conditions are spoken of in works on hernia, but this was the first instance in which he had seen such.

DR. MARKOE thought that Dr. Weir's memory was a little short, as he saw a case with him some years ago. One feature of the case was that there was distinct fluctuation felt all through the tumor; it was a hydrocele of the canal of Nuck, the patient recovering perfectly. He thought that case was identical with the one just reported.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 17, 1886.

THE PRESIDENT, CHARLES A. LEALE, M.D., IN THE CHAIR.

DR. WM. T. LUSK made some remarks on

EXTRAUTERINE FŒTATION, WITH ILLUSTRATIVE CASE.

The case referred to, he said, was one which presented a great many points of extreme interest. The patient was a lady residing in Wisconsin, thirty-five years of age. She had been married for fifteen years, and had enjoyed uninterrupted good health. Menstruation was always regular, but she had never had any children. In September, 1883, she missed a menstrual period for the first time, and one month later she suffered from very violent pains. Her physician, Dr. Meade, had stated that these were principally in the left side; but Dr. Lusk thought that he must have been mistaken on this point. Soon afterward Dr. Meade was absent for a time, and the patient was transferred to Dr. Barton. While under his care she had two or three attacks of paroxysmal pain, which radiated from the right side. On one of these occasions (October 27) the paroxysm lasted for two hours, the patient suffering excruciating agony, and being unable to lie down. This left her very weak, and on the 6th and 7th of November she had other attacks, which were, however, less severe in character.

She then began to improve in health. She passed two menstrual periods, and presented all the signs of pregnancy. Until the following July she did not have a single bad symptom. On June 17, however, the fœtal movements, which had previously been of the most marked character, were felt for the last time. About the middle of July she supposed herself to be in labor, and sent for Dr. Meade. On making an examination he found the uterus high up; the cervix was somewhat softened, but the pains were feeble, and without any expulsive power. He therefore left her until the following morning, and she slept comfortably through the night. The next day Dr. Meade ascertained that the uterus was empty, and that there was a tumor outside the latter. The possibility of extrauterine pregnancy occurred to him, and, under the circumstances, he called in consultation Dr. Marks, of Milwaukee, but a positive diagnosis was not arrived at.

In September, 1884, she went to Chicago and consulted an eminent gynecologist of that city, who strongly insisted that there was no extrauterine pregnancy, and made the diagnosis of cysto-fibroma of the uterus. In February, 1885, she came on to New York and placed herself under the care of Dr. Fordyce Barker, who at once recognized the case as one of abdominal pregnancy, and invited Drs. Thomas and Lusk to examine the patient. They both concurred in the opinion of Dr. Barker, and she was asked to return to New York in the following June or September for the purpose of having an operation performed, which she agreed to do.

After her return home she suffered from what her physician believed to be fever of remittent character, though Dr. Lusk doubted whether this was really the case. The condition of the fœtus, at the autopsy, however, indicated prolonged septicæmia, and there was little question in his mind that she was suffering from the effects of putrid absorption at this time. To add to the unfavorableness of her condition, she suffered first from an attack of diphtheria, and then from poisoning by ivy. In the autumn, Dr. Meade wrote, her health began to fail appreciably. The pulse became very rapid, and she had a good deal of diarrhœa, as well as suffering from nervous disturbance. Notwithstanding this, however, she went about and attended to her social duties much as usual, although losing ground all the time. Still, there were no marked symptoms which could be directly attributed to putrid absorption.

In December she was persuaded to go to Chicago and consult the same gynecologist again. He now modified his diagnosis, agreeing with that of the New York physicians; but urged the patient under no consideration to submit to an operation. He informed her that in four cases in which he himself had operated the result had proved fatal, and expressed the opinion that she would not survive an operation. He also encouraged her to believe that she was in no danger, and advised her to go South and live out of doors as much as possible. Accordingly she went to Atlanta; but during the three months that she was there she was unable to leave her room. She gradually grew worse, but succeeded in arriving alive in New York in the early spring. The change of air seemed to have a beneficial effect, and she so far improved that for a short time she was able to go down to one meal a day.

It was three or four days after her arrival that she first sent for Dr. Lusk; and when he saw her he was at once struck with the marked change which had taken place in her condition. She had a pinched appearance, and was extremely anæmic. The pulse was quick, and there was a rise of temperature every morning. There was also constant diarrhœa, or else diarrhœa alternating with constipation. Very shortly a menstrual period came on, and this was attended with the most marked constitutional disturbance. The temperature ranged from 103 to 104°. The pulse was extremely full, and there was enormous distention of the abdomen. The tumor also increased very greatly in size. The husband, however, assured Dr. Lusk that there was no occasion to be alarmed, as the same disturbances had

been noticed at previous menstrual periods, and had been successfully rallied from.

It was agreed, therefore, that she should be removed to St. Elizabeth's Hospital, and that one week before the expected time of the next menstrual period an operation should be performed; this time being set in order to allow her to recuperate as far as possible from the exhaustion incident to the serious febrile condition mentioned. Unfortunately, however, the husband's predictions were not realized, and from this time she declined steadily in health and strength. Drs. Thomas and Barker were called in consultation, and agreed with Dr. Lusk, that, on account of the exhausted state of the patient, an operation offered no hope of recovery —the chances in its favor being about one in a thousand. The idea of operating was, therefore, abandoned.

Later, the husband asked Dr. Lusk how long he thought his wife could live, and when the latter informed him that it would be impossible for her, in her present condition, to survive another menstrual period, he insisted that an operation should be performed, as offering the only possible chance (however remote) of recovery. Accordingly, on the 19th of March, much against his will, Dr. Lusk operated.

The tumor at this time occupied pretty much the entire abdomen, and seemed to be equally extensive on both sides. The incision was made in the median line, below the umbilicus; and it was noticed that the fluid from the vessels of the tissues severed was almost colorless, like serum. The abdominal walls having been cut through, the tumor was observed, with portions of the fœtus showing through. It was found to be entirely free from adhesions to the abdominal walls, and on this account the question arose whether it would not be advisable to remove the tumor entire. Fortunately, as the sequel proved, this course was not adopted; and when an incision was made into the sac, a volume of horribly fetid gas escaped. There was no fluid, except about a tablespoonful of pus. The tumor was stitched to the abdominal walls, and the greatest possible care taken to prevent the escape of any portion of the contents of the sac into the cavity of the abdomen. The sack of the fœtus was turned uppermost, and in the process of extraction both the parietal bones dropped off. The cutaneous surface was almost entirely destroyed, and all the organs were found to be shrivelled up.

Hypodermic injections of whiske were constantly kept up, and the patient was alive at the conclusion of the operation, which lasted about half an hour, as it was performed with the most careful attention to every detail that would tend to bring about a successful result. The patient was placed in bed, and rallied fairly well. The sac was kept perfectly clear, and the temperature was normal now for the first time. For the first twenty-four hours there really seemed to be a little hope that the case would result favorably; but at the end of that time the patient began to grow rapidly worse. The pulse became very feeble, and the stomach refused to retain any food whatever. On account of the diarrhœa present, it was impossible to secure nourishment by the rectum, and she died of starvation thirty-six hours after the operation.

The autopsy was performed by Dr. H. M. Biggs, and he found the uterus in the rear of the tumor, and about the size of an ordinary virgin uterus. The Fallopian tube of the left side extruded over to the sac, and its fibres were lost in the walls of the latter. This condition Dr. Lusk considered of great interest in connection with the history. The case was, no doubt, originally one of tubal pregnancy. Later the tube burst, giving rise to the attacks of paroxysmal pains noticed; and the fœtus then developed in the abdominal cavity. Dr. Lusk thought at first that the walls of the sac were composed of tissue identical with that of the uterus, but Dr. Briggs found, on examination, that the tissue was entirely fibrous. There was not the slightest sign of peritonitis, but the sac was so strongly adherent to the intestines that it required about half an hour to separate the adhesions at the autopsy. It was therefore evident that it would have been impossible to remove the tumor entire from the abdominal cavity.

This case, Dr. Lusk said, is chiefly interesting from the fact that the patient fell a victim to what he believed to be wholly erroneous teaching. All the authorities say that these tumors should not be removed until the health begins to decline. The danger is, that if the evidences of septicæmia are not distinctly recognized, operative interference is apt to be delayed until it is too late. One, at all events, of the four patients operated on by the Chicago gynecologist referred to, as shown by the recorded history of the case, was in a dying condition at the time, and Dr. Lusk thought that if the other three were in the same exhausted state, there was no reason whatever to hope for any different results than those noted. The reason often given for delaying operative procedures is that, in the course of time, the fœtus will be very likely to be converted into a lithopædion; but statistics show that the number of cases in which this occurs is relatively very small.

The presence of the fœtal tumor in the abdomen is almost always a source of constant pain and distress. As a matter of humanity, therefore, the child ought to be removed very shortly after its death, and the physician should not wait for symptoms which indicate that the constitution is already undermined before advising laparotomy. The cases which Dr. Lusk has investigated show that nearly all the patients recover when the operation is undertaken early. In itself it is not really a dangerous procedure, and the bad results which have been noted in so many instances are due simply to the fact that operative measures were adopted only as a last resort. The development of the symptoms denoting putrid absorption is almost always insidious, and there are very few cases in which marked symptoms are presented until quite late in their history. The effect of the vicious process going on in the system is primarily in the blood, and afterward follow degeneration of all the parenchymatous organs. In the case detailed by Dr. Lusk the heart was especially affected. (The fœtus and the sac were presented for inspection.)

In marked contrast to this case was one, the specimen from which, a fœtus removed by Dr. Reginald H. Sayre, he now presented. In this instance, although there was the most intense septicæmia, the patient recovered.

DR. REGINALD SAYRE, on being called upon by the Chair, said that he had nothing to add to the history of the case, which had been fully reported by Dr. Lusk, except to say that, if the patient had been operated on before the tumor sloughed, luckily into the vagina, instead of the abdominal viscera, she would, no doubt,

have been saved a great deal of suffering. He quite agreed with Dr. Lusk as to the advisability of an early operation in these cases.

DR. E. SANDERS related the history of a case similar in character to that described by Dr. Lusk. When last seen, the patient was in good condition, although she had lost considerable flesh, and she had been advised to report herself at once should any serious symptom develop. She was a patient in the Outdoor Department of the Mount Sinai Hospital, but he had her residence, and would endeavor to see her again, with a view to considering the propriety of operating.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, May 1, 1886.

THE PRESIDENT. F. G. RODDICK, M.D., IN THE CHAIR.

EVERSION OF THE VENTRICLES OF THE LARYNX.

DR. G. W. MAJOR presented a case of eversion of both laryngeal ventricles in a male æt. twenty-seven. The case had been under observation and treatment for over two years, and showed decided improvement. A tuberculous condition was present, as evidenced by lung signs, and in a local development in the post-laryngeal wall. He referred to a case of complete eversion of the right sacculus, which had been demonstrated at the Throat Clinic of the Montreal General Hospital in April, 1884, occurring in the person of a syphilitic subject. In this case the ventricle was completely returned under treatment. Reviewing the literature of the subject, allusion was made to the fact that in the majority of the few recorded cases some dyscrasia was prominent, notably that accompanying syphilitic, tuberculous, or cancerous disease.

TUBERCULOSIS OF THE TONGUE.

DR. STEWART exhibited a woman aged twenty-eight, who had been complaining for over four months of cough, purulent expectoration, night sweats, loss of flesh, etc. Father and mother still living and in good health, but had lost a brother and sister from phthisis. When she first came under observation, three months ago, there was distinct evidence of consolidation of both apices, and this condition still continued. The patient was hoarse, and complained of pains in the larynx, and also in the throat when swallowing. Dr. Major had examined the larynx, and found a tubercular nodule about the size of a grain of wheat in the inter-arytenoid space. The tip of the tongue was superficially ulcerated to almost the size of the little finger-nail. From the centre of the ulcerated surface, a fissure extended into the substance of the tongue to the depth of about a quarter of an inch. The tissues immediately surrounding were hard and nodular. No pain on pressure nor any discharge. Shortly after the sore was noticed the patient experienced a severe pain in it. This continued to increase in severity up to the time when she first came under Dr. Stewart's care. At that time the pain was so severe that she found it almost impossible to eat or even to speak. The local application of iodoform quickly relieved the pain, but otherwise it did not seem to have had any influence over the cause of the local trouble. Lately Dr. Stewart had employed equal parts of a half per cent. of papayotin, glycerine, and water, as a local application, the object being to influence directly the tuberculous infiltration. From the well-known properties that this drug has in dissolving albuminous tissues, he thought it might be of service.

DR. STEWART looked upon the case as undoubtedly one of tuberculous ulcer of the tongue. Although the secretion from the tongue had been examined on two occasions, no tubercle bacilli had been found.

DR. MAJOR stated that he had found in this case tuberculous disease of the larynx, and spoke of the benefit of iodoform in these cases. He used it in large quantities mixed with equal parts of gum acacia. In reply to a question raised by Dr. Shepherd as to the influence of iodoform, when used as a local application, in producing pneumonia, Dr. Major stated that he had used the drug extensively for years in tonsillar and laryngeal disease, and had not encountered any untoward result.

NEUROPATHIC SKIN DISEASE.

DR. R. I. B. HOWARD exhibited a patient who had suffered for the last four years from an affection of the skin of both feet. The eruption was papillomatous in character, and was spreading slowly by its periphery whilst healing in the centre. No scar was left after healing. The parts of the feet affected were those supplied by the musculo-cutaneous nerve. The patient, a boy aged ten, also had a Pott's curvature of the lower dorsal region, and Dr. Howard suggested that this might account for the eruption.

DR. HENRY HOWARD said that although he looked upon the case as one of nervous origin, he thought it had no connection with the Pott's curvature; that the cause was not central, but peripheral.

DR. SHEPHERD looked upon the case as a form of lupus, from its long duration and its tendency to spread, and also from the fact that it did not tend to become eczematous. The fact that there was no scarring was certainly against this diagnosis, but sometimes it is very difficult to find lupus scars, especially with artificial light. He had seen a similar case cured by scraping and cautery.

DR. SMITH looked upon the case as one of ringworm and stated that he had seen many such.

DR. TRENHOLME agreed with the latter speaker.

DR. R. I. B. HOWARD, in reply, said that he himself, at first, looked upon the case as one of lupus, but from its distribution, absence of scarring, etc., he was inclined now to think the affection of nervous origin. He had brought the case before the Society in order to get a diagnosis. He thought that Mr. Jonathan Hutchinson would probably call the disease lupus. The case was certainly not one of ringworm as suggested by Dr. Smith; it had not any resemblance to that affection.

CORRESPONDENCE,

HYDROPHOBIA.

To the Editor of THE MEDICAL NEWS,

SIR: The reading of your editorial comments of the 24th inst., upon the death of Dr. Warner from the "fear of hydrophobia," has incited me to address you these lines to the effect that I am a firm believer in the notion that it is not necessary that the animal pro-

ducing the bite shall be the subject of rabies to induce hydrophobia in the subject bitten. Many cases can be referred to, quoted in the public prints, and in the experience of observers (notably the case of the Duke of Hamilton, Governor-General of Canada, bitten by a tame fox), to prove that the animal excited by fear or anger may give hydrophobia by its venomous bite.

I have been convinced of this, though only with the experience of one case. This was one of undisputed hydrophobia in a boy eight years of age, who had, childlike, punished a cat severely by shaking and cuffing it for some fancied offence, and which bit him severely upon the thumb, hydrophobia and death occurring some twelve days afterward. The cat was secured and kept by me for over four months under observation, without symptoms, was quite domestic, and could be petted without fear.

Analogy proves through the animal kingdom that the secretions (saliva) are so changed under the influence of sudden fear or anger as to become poisonous, and until we become more familiar with the pathology of rabies, we must regard all bites under such circumstances as very dangerous, and their effects not rarely due to a *fear* of hydrophobia.

RALPH N. ISHAM.

321 DEARBORN AVE., CHICAGO,
April 26, 1886

NEWS ITEMS.

THE PENNSYLVANIA STATE MEDICAL SOCIETY will hold its annual meeting in Williamsport on Wednesday, Thursday, and Friday next.

RECEPTION TO DR. HOLMES.—There was a large gathering at the St. George's Club, in London, on the evening of May 24th, to welcome Dr. Oliver Wendell Holmes. Among those present were: United States Minister Phelps, Commissioner Van Wagner, Consul-general Waller, Vice-consul-general Penfield, James Russell Lowell, R. B. Haldane, M. P.; Charles Russell, M. P.; Charles Palmer, M. P.; John B. White, M. P.; Consul Bret Harte; the Dukes of Argyll, Westminster, and Manchester; Lord Napier; Count Karoly, the Austrian ambassador; Sir Arthur Sullivan, Sir John Millais, Henry Irving, John L. Toole, and Thomas Power O'Connor, M. P. A reception to be given at the Liverpool Medical Institution was also arranged, but Dr. Holmes was unable to be present and it was postponed.

DEATH OF PROFESSOR LANDIS.—Dr. Henry G. Landis, Professor of Obstetrics and the Diseases of Women in the Starling Medical College, Columbus, Ohio, died in this city on the 22d instant.

TARRED FLOORS IN GARRISONS.—Some months ago the floors of many Austrian garrisons were painted with tar, and the results have proven so uniformly advantageous that the method is becoming greatly extended in its application. The collection of dust in cracks is thus prevented, and a consequent diminution in irritative diseases of the eye has been noted. Cleaning of the rooms has been greatly facilitated, and parasites are almost completely excluded. The coating of tar is inexpensive, requires renewal but once yearly, and presents but one disadvantage, viz., its sombre color.

THE STATE MEDICAL SOCIETY OF WISCONSIN will meet in the city of Madison, on Tuesday, the first day of June, 1886.

THE INTERNATIONAL CONGRESS.—It is announced that Dr. A. L. Gihon, U. S. N., has been appointed President of the Section of Collective Investigation, in the place of Dr. H. O. Marcy, of Boston, who has been made Vice-President of the Section of Gynecology.

THE MEDICAL SOCIETY OF NEW JERSEY.—The one hundred and twentieth annual meeting of the Medical Society of New Jersey will be held in the Girt House, Sea Girt, on Tuesday and Wednesday, June 8 and 9, 1886, commencing at 4 o'clock P. M. on Tuesday.

THE MAINE MEDICAL ASSOCIATION.—The thirty-fourth annual meeting will be held in Portland, Me., on Tuesday, Wednesday, and Thursday, June 1, 2, and 3, 1886.

DR. EDWARD FOURNIÉ, the distinguished laryngologist and aurist, and for a long time Director of the National Asylum for the Deaf and Dumb of France, and editor of the *Revue Médicale*, died on March 24, aged fifty-three years.

TESTAMENTARY DISPOSITION OF BODIES.—The French Government has passed a law permitting persons to give their bodies, by will, to learned societies.

A CHILD POISONED BY THE NURSE'S COSMETIC.—A German practitioner being called to see a child five weeks old who was continually crying and suffering from colic, and whose skin was of a dull bluish tint, was somewhat puzzled as to diagnosis, until looking at the nurse's face, and seeing it of a brilliant white and red tint, he touched the surface, which left a greasy stain on his finger of a cosmetic rich in lead. This poisonous substance the nurse had long been in the habit of using for the purpose of improving her complexion. The cause of the child's colic being removed, and appropriate treatment adopted, a cure was effected in a few days.

THE RUSSIAN GOVERNMENT has issued an order that the practice of massage is only to be allowed to be conducted by those who have obtained a licence after examination in the same way as those who practise medical gymnastics are licensed, and the massage must always be carried on under the orders and supervision of a medical man.

THE MICHIGAN CREMATION ASSOCIATION has just been organized at Detroit, Mich. Articles of incorporation have been completed, and the following officers elected: President, Dr. James F. Noyes; Vice-President, Dr. Hugo Erichson; Secretary, A. N. Lowe; Treasurer, Moses W. Field. The treasurer has filed a bond of $10,000. The location of the proposed crematory has not been decided on.

NICKEL-PLATED COOKING UTENSILS DANGEROUS.—The Supreme Sanitätsrath of Vienna, having submitted nickel and nickel-plated cooking utensils to a careful chemical examination, has decided that their use, from a sanitary point of view, is not free from serious objection.

POISONED HONEY.—At the last meeting of the Dresden Agricultural Society, a local druggist reported that in one of the neighboring honey centres the deadly nightshade grew abundantly, and that the bees had visited these flowers, and thereby incorporated in the honey sufficient poison to account for numerous and occasionally fatal cases of poisoning occurring in that region and elsewhere after use of the honey in question. He also stated that from American honey gelsemium had been extracted.

DR. DANIEL G. BRINTON, whose work on American Ethnology was recently very favorably criticised in the *Atlantic Monthly*, has been made laureate of the Société Américaine de France for 1885, and has been awarded the medal of the Society for his works on the aboriginal tongues of America.

MEDICINE IN GERMAN UNIVERSITIES.—In the German and German-speaking universities, by far the largest medical faculty is that of Vienna, which has 18 professors, 34 extraordinary professors, and 82 privat-docents, making 134 teachers; the number of students being 2307. Next comes Munich, with 13 professors, 7 extraordinary professors, and 22 privat-docents, making 42 teachers; the number of students being 1129. After this comes Berlin, with 1072 students, and no less than 100 teachers. The smallest of all appears to be Rostock, with 11 teachers, and 92 students.

NOTES AND QUERIES.

CORRIGENDUM.

To the Editor of THE MEDICAL NEWS,

SIR: In the valuable report of the discussion in the New York Academy of Medicine on the "Treatment of Diabetes" (number for April 3, 1886) I am quoted as saying that in diabetes the glycogenic function of the liver is "increased," and that we have no remedy to "check" it. Please substitute "decreased" for "increased," and "stimulate" for "check," and your report will be the best one published.

That I do not ask this correction for personal reasons will be evident when I inform you that my name appears as S. Varick.

Very truly yours,
SIMON BARUCH, M.D.

43 E. 59TH ST., NEW YORK, May 21, 1886.

RESECTION OF THE FACIAL NERVE.

To the Editor of THE MEDICAL NEWS,

SIR: I beg leave to correct a slight misprint in your summary, in your issue for to-day, of my paper before the American Surgical Association, on "Stretching the Facial Nerve." It is stated that the patient came under my care "April 1, 1880," and that the resection of the infraorbital nerve was done in June, 1884. For "1880" read "1886," which will show that I never saw the patient till two years after the resection, and so could not have done that operation, and also will explain why I only report the result up to twenty-five days after the operation on the seventh. At present, seven weeks after the operation, the result is equally satisfactory.

Yours truly,
W. W. KEEN.

PHILADELPHIA, May 22, 1886.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT OF THE U. S. ARMY, FROM MAY 11 TO MAY 24, 1886.

HUNTINGTON, DAVID L., *Major and Surgeon.*—Ordered to proceed from this city to David's Island, N. Y. Harbor, on public business connected with the construction of the present hospital at that depot, or the erection of a new one. On completion of this duty to rejoin his station.—*S. O. 109, A. G. O.*, May 10, 1886.

FINLEY, JAMES A., *Captain and Assistant Surgeon.*—Ordered for duty at Fort Buford, D. T.—*S. O. 39, Department of Dakota*, May 5, 1886.

CASTER, WM. F., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, to take effect about June 1st, with permission to apply for an extension of one month. —*S. O. 55, Department of Texas*, May 11, 1886.

BANISTER, JOHN M., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon, Ft. Canby, W. T.—*S. O. 75, Department of Colorado*, May 8, 1886.

BENHAM, R. B., *Captain and Assistant Surgeon.*—Ordered to Department of the Platte.—*S. O. 109, A. G. O.*, May 10, 1886.

EWING, C. B., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Ft. Leavenworth, Kansas, and ordered for duty as Post Surgeon at Ft. Supply, Ind. T.—*S. O. 48, Department of Missouri* May 13, 1886.

CHERBONNIER, A. V., *Captain and Medical Storekeeper, U. S. Army.*—Granted leave of absence for four months, with permission to apply for four months extension.—*S. O. 109, A. G. O.*, May 10, 1886.

SMITH, ANDREW K., *Lieutenant-Colonel and Surgeon*, WOODHULL, ALFRED A., *Major and Surgeon*, and KIMBALL, JAS. A., *Captain and Assistant Surgeon.*—Detailed as Board to assemble at U. S. Military Academy, West Point, New York, on June 1, 1886, to examine into the physical qualifications of members of the graduating class, and the candidates for admission into the Academy.—*S. O. 119*, May 21, 1886.

ELBREY, F. W., *Captain and Assistant Surgeon.*—Sick leave of absence still further extended one year on surgeon's certificate of disability.—*S. O. 115, A. G. O.*, May 17, 1886.

WINNE, C. K., *Captain and Assistant Surgeon.*—Granted leave of absence for twenty days on surgeon's certificate of disability.—*S. O. 34, Department of California*, May 17, 1886.

KILBURNE, HENRY S., *Captain and Assistant Surgeon.*—Assigned to duty at Vancouver Barracks, Washington Territory. —*S. O. 80, Department of Columbia*, May 15, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE TWO WEEKS ENDING MAY 22, 1886.

BRANSFORD, J. F., *Surgeon.*—Invalided home, from Pacific Station.

WINSLOW, GEO. F., *Surgeon.*—Ordered June 1st proximo, to the U. S. S. "Atlanta."

HEFFINGER, A. C., *Passed Assistant Surgeon.*—Detached from the Navy Yard, Portsmouth, N. H., and ordered to U. S. S. "Atlanta," June 1st.

LAW, H. L., *Surgeon.*—Ordered to the U. S. R. S. "Wabash."

HAWKE, J. A., *Surgeon.*—Detached from U.S.R.S. "Wabash," and await orders to sea.

OGDEN, F. N., *Assistant Surgeon.*—Ordered from U.S.S. "New Hampshire," and wait orders.

BAKER, J. W., *Assistant Surgeon.*—Ordered for examination preliminary to promotion.

WOODRUFF, CHARLES E.—Commissioned Assistant Surgeon in the Navy, May 17.

HENRY, CHARLES P.—Commissioned Assistant Surgeon in the Navy, May 18.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING MAY 22, 1886.

BAILHACHE, P. H., *Surgeon.*—Detailed as Chairman of Board for Physical Examination of candidates for appointment as cadets Revenue-Marine Service, May 19, 1886.

WYMAN, WALTER B., *Surgeon.*—Granted leave of absence for thirty days, May 14, 1886.

STONER, G. W., *Surgeon.*—Detailed as Recorder of Board for Physical Examination of candidates for appointment as cadets Revenue-Marine Service, May 19, 1886.

BANKS, C. E., *Passed Assistant Surgeon.*—Leave of absence extended four days, May 5, 1886.

BRATTON, W. D., *Assistant Surgeon.*—Detailed as Medical Officer Revenue Steamer "Corwin," during cruise, May 22, 1886.

PERRY, T. B., *Assistant Surgeon.*—Appointed an Assistant Surgeon, May 21, 1886. Assigned to temporary duty at San Francisco, May 22, 1886.